The Cities' Most Serious Crisis

City Managers Consider Fundamental Problems

ASSERTING that "American cities face the most serious crisis in their history," Louis Wirth, Professor of Sociology of the University of Chicago and former Director of Planning of the Illinois Post-War Planning Commission, posed some puzzling problems before the 31st Annual Conference of the International City Managers' Association in Chicago last month. Said Dr. Wirth, in part:

"The period in which we live is one characterized by highly fluid conditions. During such a period, we have an opportunity to change conditions for better or for worse to a greater degree than in normal times. We should realize, however, that the post-war period has already arrived for many cities, and that the foundations for a wholesome life for these cities must either be laid now or they will not exist.

Facts That Must Be Reckoned With

"Long before the war began, our cities were undergoing changes, the fundamental and revolutionary nature of which was scarcely recognized. The war itself has brought even more drastic upheavals; and the impending post-war problems and possibilities are of staggering proportions. Our cities—large or small, old as well as new—cannot plan their future wisely if they fail to take account and to understand the implication of these changes. . . .

"A realistic appraisal of the problems and prospects of the American city must reckon with the fact that the seemingly limitless growth of our cities has come to an abrupt end. This is all the more important because until the end of World War I, we took it for granted that our cities would continue to grow at what now appears a fantastic rate. In the census of 1940, we were shocked to discover that during the previous decade our cities had grown at their slowest rate in history. It amounted to 7.9 percent, or considerably less than 1 percent annually. This was less than one-third the rate of growth during the previous decade, and less than one-tenth the rate a century ago.

"Not all parts of the country are equally affected by this drop. The South and the West, especially the Southwest and the Northwest, still show some of the exuberant growth of frontier regions. But there, too, the shift of population attracted by relatively undeveloped resources, by gigantic power developments, and by the reorientation of America to the Pacific, has definite limits. . . .

"Aside from the changing rate of growth in cities, urban planning must take account of the changing pattern of cities, especially of our larger cities or metropolitan areas. The overwhelming proportion of our war plants has been built on the outskirts of cities. Approximately three-fourths of the new war plants are located within the metropolitan areas of cities with a population of over 100,000. Even in the smaller cities, such new plants as have been erected are located in the newer sections and often outside the municipal limits. The trend in that direction was already established before the war. It has been accentuated by the war. What is more important than the number of plants on the periphery of cities, however, is the nature of these plants. The fact that this recent industrial development represents our most modern production facilities is of special significance. Given the choice between resuming production in an old or obsolescent plant and in a modern new plant, I leave it to you to decide where industrial activity will go.

The Flight to the Suburbs Will Increase

"The most likely effect of this decentralization of industry within urban areas is to accentuate the decay of the central cities and of the inner cores of our towns. The flight to the suburbs will increase. Whereas formerly only the upper income groups could live in the residential suburbs and commute to the cities for work, we now find that the middle and lower income groups are in ever increasing numbers being attracted to the suburbs where they would be nearer to their work. Under the present housing shortage, it is already true that a substantial proportion of the urban working population lives in cities and commutes to the suburbs to work. This is unlikely to continue indefinitely. . . .

"Once the effects of war production and shortages have disappeared, the cities which are dependent upon real estate taxation will experience a resumption in the decline of tax values. Unless they find new sources of revenue of a substantial sort other than the real estate tax, they will move further toward bankruptcy. As the cumulative decline at the center proceeds, the flight from the city will be speeded up, resulting in the vicious circle of further decline in the center, still lower tax revenues, and higher costs of public services. Only large-scale rebuilding of our cities, especially at or near their centers, will halt this catastrophic downward spiral.

"While less visible in the smaller cities than the large, this situation holds for the former as well. It is cheaper to build on new land on the outskirts than to rebuild on the old land in the center. Only a broad regional organization of urban government and of urban planning can cope with this problem.

"The decentralization of industry on a national scale which gave to the middle sized and small cities an advantage during the twenties will no longer be supported by national standards of wages and by a nation-wide labor organization. There was a time when industry fled to the smaller outlying towns for cheap labor and low production costs. Our national legislation on minimum wages and maximum hours and on collective bargaining has, in my opinion, fortunately put an end to the attempt on the part of industry to exploit these differentials. In the future, the smaller towns and the outlying cities must offer something besides non-unionized workers to be had at low wages in order to compete with the larger centers. They can offer advantages in lower costs of government and in more stable and desirable conditions of life. For this they must learn to plan.

"Some cities may be tempted to hold on to or to attract an industry for which they are ill suited. I should like to warn them that to do so is to invite disaster in the long run. Unless a city has a sound economic base and offers genuine advantages in the form of accessibility to raw materials, labor, and particularly markets, and unless it has advantages in transportation and in efficiency of government and wholesomeness of life, it will not be able to induce industries to settle and to remain in the community. Hence it is im-

(Concluded on page 125)

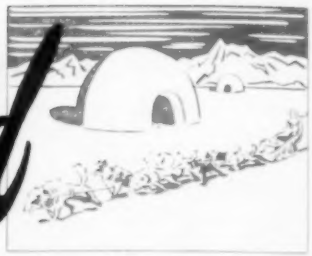
Incentives for Replanning

In the paper here abstracted Dr. Wirth stressed the need for adequate incentives for the rebuilding and replanning of our cities:

"During demobilization, the spirit of patriotism, of sacrifice, and of civic loyalty is likely to wane. Apathy and disillusionment set in. Most important of all, however, during the period of demobilization there is the absence of an imperative and unambiguous goal. Whereas war fixes its own goal—survival and victory—peace must be built on less determinate objectives.

"What compelling motive shall guide us in reconstructing and replanning our cities for the era of peace? The cities of the old world can find their inspiration for reconstruction in the ruins that they see all about them. We must find our incentive in the vision of what we have in contrast to what we might have; in the difference between the actual and the possible."

Hot or Cold Wet or Dry



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Our Municipal Notebook

The Piper Cub, built for personal flying since 1931 and now doing war reconnaissance, is one of the answers to the question below.

Why So Many Airparks?

CIVILIAN air travel being what it is today—a gamble as to how far you will get—it may be that not all city officials clearly comprehend the genuine need for 6,000 and more landing fields. Various thick straws in the wind, however, are showing the future trend towards a great volume of personal flying. Advertisements of the Piper Aircraft Corporation of Lock Haven, Pa., and of The Aeronca Aircraft Corporation, Middletown, Ohio, are pointed directly to city officials because the prosperous future of airplane manufacturers, of aviation, and, to a degree, the nation itself depends on the ungrudging provision of thousands of airports, airparks, and landing strips so that aviation may be fluid. Another straw is the incorporation of Parks Air Transport under the direction of Oliver L. Parks, East St. Louis, Ill., to operate 35 feeder routes covering 14,769 miles in 15 states in the central region of the United States. Heretofore, chief stress has been on main line routes with most cities desiring to be on them. In the full development of civilian aviation the feeder airlines will build their service to meet the needs of the smaller cities they serve in addition to giving these smaller cities main trunk line connections.

On the other hand, scheduled flying to total aviation of the visible future is as local and inter-city transport to the whole motor industry. Automobiles make the automotive age, and personal airplanes will make the air age. These thousands, and later millions, of personal aircraft can appear only when landing strips are where needed so that the farmers' and townsmen's planes can take off near home and reach any desired destinations. Then only will the air age, essential to a prosperous modern world, rise to its own.

Breaking Distances On Icy Streets

RESULTS of more than 3,000 tests made by the Committee on Winter Driving of the National Safety Council, reveal that breaking distances on ice and packed snow range from three to eleven times that on dry pavement.

Several methods are suggested for obtaining bare pavements after a snowfall. Snow plowing alone can do it if started early in the storm. So will sodium chloride (rock salt) or calcium chloride. Spreading minimum amounts of pure chlorides, after the snow has fallen to a depth of one-half to one inch, melts the snow and forms a brine between the packed snow or ice and the pavement. Plowing is then relatively easy.

Conventional abrasive-chloride mixtures also are used for taking the skid out of roadways. Breaking distances on sanded ice are half those on glare ice, but four times those on bare pavement. Use of chlorides alone eliminates extra plowing, and avoids the need for removal of abrasives from sewers and catch basins.

By adopting modern techniques of snow removal, communities in the northern states can obtain the safe driving conditions in winter that have won public approval in such cities as Binghamton, Rochester, Buffalo, Cleveland, Milwaukee, Newark, and Springfield, Mass.

Carbon Dioxide Protection of City Record Vaults

THE preservation of public records is one of the livest projects in municipal offices. The subject was presented in detail in THE AMERICAN CITY, September 1944 (pages 93-95), and will be developed further in a coming issue. One of the methods discussed was "Placing the Records in Fire-Resistant Vaults." Fires sometimes occur within these vaults. Sprinklers probably would ruin the records. There is, however, carbon dioxide fire protection, now used successfully in commercial vaults such as fur storage.

Carbon dioxide, being chemically inert, causes no damage to any materials it touches. For that reason carbon dioxide is the best agent for such vaults. The Walter Kidde Company has perfected a system whose capacity is determined by the cubic feet of space to be protected, and the type of hazard. This is the high-pressure automatic carbon dioxide system, approved for all laboratories for Class A, B, and C fires.

The control of fire begins with its detection by heat actuators spotted about the vault ceiling. These operate on the rate-of-temperature-rise principle, one of the speediest and most reliable known. Air, warmed by the first smoke or smouldering, rises to the ceiling, causing an increase of pressure within the sensitive diaphrams in the actuators. This pressure is transmitted through tubing to the valve frames located wherever space permits, dropping a weight at the directional valve guarding that space. This operates a cable pulling the valve lever through a three-quarter turn, cutting the discs sealing the carbon dioxide, routing the discharge to the particular space afire. The gas pours from the shielded nozzles hung above the records.

So swift is the fire extinguished that often there is no evidence of it except the indication that the system has discharged. Double precaution is provided with the use of an American District Telegraph alarm system which may be tied into the Kidde installation so that the release of the gas sounds an alarm.

May Post-War Taxes Also Be Paid in Full!

GLENS FALLS, N. Y., will not hold a tax sale this year, says the New York State Conference of Mayors. The 1944 tax scale would have covered taxes assessed during 1942 and all city, county and school taxes assessed during 1942 against properties subject to tax sale have been paid.

A report to the Common Council shows that 6,459 tax bills were issued, of which 6,341 were paid in full, 114 were assessed against properties already bid in by the city at prior tax sales and four were assessed against properties exempt from tax sales, by reason of the fact that the owners are in military service. Out of a total tax levy of $1,075,512.62, the sum of $1,073,822.20 has been collected.

The prompt payment of taxes has made it possible for the city to pay all operating expenses, all bank loads and current indebtedness, $60,000 on bonded indebtedness, and, after such payment, to have on hand, September 1, 1944, cash to the amount of $201,327.76. At this time, the only indebtedness of the city is bonded debt of $255,000.

ELEVATED STORAGE TANK *helps Tampa, Florida cure its Water Distribution Ills*

The wide range in maximum hourly water demands as shown in this chart, emphasize the importance of installing elevated storage to meet peak loads in the Tampa system.

To improve the distribution of water over an enlarged service district, the city of Tampa, Florida, recently completed an extensive modernization program. The addition of trunk mains and the erection of the 1½-million-gal. Horton elevated tank shown above were included in the program.

The tank was located so as to provide ample pressure to the extremities of the system which serves the entire metropolitan area containing about 171,000 people. Prior to the modernization program heavy demands in the Peninsular area resulted in extremely low pressure during periods of peak loads. The new elevated tank has been a lifesaver in relieving peak demands on the pumping station and has proved efficient in equalizing the daily load.

In addition to the new 1½-million-gal. tank, Tampa's municipally-owned and operated water system includes three 500,000-gal. Horton elevated tanks, a 3,500,000-gal. concrete reservoir and a 100,000-gal. elevated tank at Port Tampa City.

When considering elevated storage for your city, keep this fact in mind . . . when conditions demand it, our Greenville plant has complete facilities for phosphoric pickling. Ask about our "Phoscote" process.

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San Francisco 5.....1033 Rialto Building
Philadelphia 3.1616-1700 Walnut St. Building
Havana.....402 Edificio Abreu
Washington 4.....930 F Street N.W.

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Water Works

How to Beat Anerobic Corrosion

IF you are going to combat anerobic corrosion of iron or steel when it is exposed to water—one of the serious reasons for high maintenance costs in certain municipal water and sewage-treatment plants—you have two lines of attack: one is to remove the food on which the bacteria lives, and the second is to kill the organisms. This was pointed out by A. E. Griffin, Assistant Director, Technical Service Division, Wallace and Tiernan Co., Newark, N. J., in a paper delivered before the Engineers' Society of Western Pennsylvania at their Fourth Annual Water Conference held in Pittsburgh.

The first method, Mr. Griffin stated, is difficult and costly to accomplish thoroughly; whereas the second is relatively simple and economical. A practical solution is to combine the two operations in such a way that each supplements the other. Oftentimes, because of the volume of water used, results can be obtained only by the one treatment—chlorination.

Although investigators first believed that not more than two or three organisms were responsible for corrosion of iron and steel, new evidence has appeared that convinced them that many types are involved. These range all the way from members of the coli aerogenes group to the more specialized type known as desulphuricans. Mr. Griffin pointed out that chlorination's efficacy as a practical solution to bacterial corrosion and sliming difficulties is evidenced by the many places where it is being used.

Practical Stimulus for Post-War Construction

THE Indiana State Board of Health under the direction of Joseph L. Quinn, Jr., of the Division of Environmental Sanitation, has just presented to municipal officials of that state an excellent brochure prepared by Professors John E. Stoner and Pressly S. Sikes of the Department of Government of the Indiana State University, entitled, "Water and Sewage Systems in Indiana—the Planning of Future Construction Now."

This study was prepared for readers of varying interests—lawyers, administrators of public health programs, state legislators, and particularly the busy municipal official. Its purpose is to give all the information needed on the financing of water, sewer, and sewerage treatment facilities.

The authors have covered the range of problems in procedure that confront those interested in this form of post-war construction. The study is an excellent handbook, giving a practical impetus to post-war construction and may well form the basis for similar publications in other states.

(See pages 97 and 129 of this issue)

Alum Solution Control

ALUM solution control was a ticklish situation at the Montebello filtration plant, Baltimore, Md.; however, it was not so tough that A. A. Bailey, Filtration Engineer, could not solve it. He explained his method before the Maryland-Delaware Water and Sewerage Conference recently.

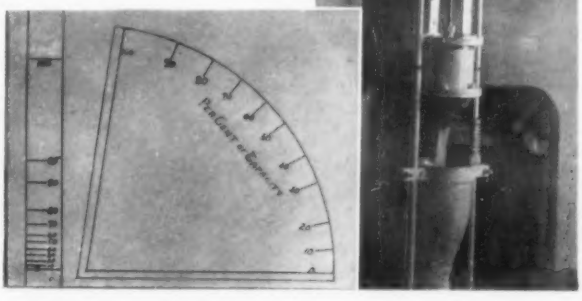
The original alum solution controllers consisted of a constant level tank with an adjustable orifice at the bottom, the level being controlled by a float-operated balanced piston valve. The valves, however, caused difficulty since they were too large in comparison with the quantity of solution passing through them. Small objects, such as match sticks, would wedge themselves between the seat and the disc and prevent them from shutting off properly.

To correct this Mr. Bailey replaced the valves with a pinch valve arrangement consisting of a piece of 2½-inch pure gum hose 8 inches long clamped to the inlet pipe with the pinch arm operated by the float.

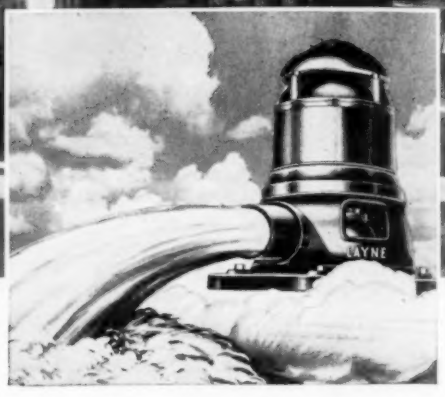
The outlet at the bottom of the controller also caused a certain amount of trouble. This consisted of a bronze ring bolted to a cast iron base and a cylinder having an irregularly shaped slot cut in one side forming the orifice; thus, by raising and lowering the cylinder through the ring he could vary the rate of flow. However, the combined chemical action of the alum and the abrasive material carried in the solution cut into the ring so that in a very short time it was necessary to readjust the opening to secure the proper flow rates.

Because of these difficulties, Mr. Bailey decided to try a new arrangement. He lined the original controller with lead, revised it for use simply as a constant level tank and piped the solution to a new controlled orifice. This orifice consisted of a short lead cylinder 4 inches in diameter with a hard rubber nozzle and a plug with a bronze stem. It is held in place by a frame work in which it is free to slide in order to secure the proper elevation. The orifice adjustment is made by means of a knarled nut on the stem which is held in place by a frame work which also supports the indicator and dial. The dial is marked in percent of capacity. A pin in the end of the arm that is attached to the stem slides in a slot in the pointer making the movement of the pointer greatest when the stem movement is least and smallest when the stem movement is greatest giving a nearly equal spacing on the dial.

"The original idea," stated Mr. Bailey, "was to have two methods of regulation, one by changing the elevation of the nozzle thereby changing the head, and the other by changing the orifice openings. We found, however, that we obtained satisfactory results by keeping the head constant and varying the nozzle opening only. We are operating with a head of 3 feet 9 inches above the nozzle opening which gives maximum output of 40 gpm and we expect to use this permanently.



This is Engineer Bailey's alum solution flow controller with a diagram of the indicating dial. Notice how the dial arrangement makes readings more accurate than those obtained from the direct-reading scale shown to the left.



"Main Street"

IS GOING TO SEE A LOT OF CHANGES

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Every City Official, Engineer and Plant and Factory superintendent had better be ready and willing to go along in a lot of new changes for the active days of post-war. Your America is going to be a pretty alive and progressive country. Things are going to happen very rapidly.

There is one mighty big and important fact that all should remember: . . . all progress, growth and development will absolutely depend upon an adequate and thoroughly dependable supply of water.

As after World War I, Layne is now swinging over to industrial and municipal Well Water System installation work. The requirements for peace time need are now being given special attention. The building of Layne high efficiency pumps is continuing without let up. Field testing and drill crews are up to full strength. Ready now are all kinds of parts, supplies and new equipment for the enlarging or the reconditioning of old wells. All branches of Layne service are ready to serve on important Water Supply work.

If your needs are for more water, or if your present system needs service, better get in touch with Layne without delay. For late literature, catalogs, etc., address Layne & Bowler, Inc., General Offices, Memphis 8, Tennessee.

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DEEP WELL PUMPS

Public Safety

Know All About Foam for Fire

DURING the last ten years the production and use of petroleum products have vastly increased and many new petroleum products, to say nothing of paints and chemicals, have been placed on the market. This much larger volume of flammable materials must be manufactured, stored, and transported in cities and towns. A greater need has therefore risen for fire departments to understand thoroughly the correct methods of controlling oil fires and to have available the correct equipment.

Foam produced by small hand fire extinguishers is effective on various flammable liquids, and experience with many large oil fires in this country, such as in refineries and bulk storage, has proved that larger-capacity foam equipment is the most effective form of protection because it produces a positive flexible fire-smothering blanket that puts the fire out and keeps it from re-flashing. Chemical foam generators and the newer air foam play-pipes have both become standard fire department equipment.

Some fire departments have had little occasion to fight large oil fires. This has been fortunate because it would have been embarrassing and costly without the right equipment to stop these fires. The oil company also usually has equipment for protection of its own property, especially in the case of a large refinery.

In some cities where there are several oil company plants, the companies as a group provide the powder or solution and house a reserve stock at a central point accessible to and approved by the fire department. The fire department frequently carries the generators or air-foam equipment and the companies provide the powder or solution.

In very large refineries, the company may have a well organized and trained fire department which works in cooperation with the municipal fire department. In case of fire, in some cases, the plant chief communicates with the municipal fire department if its services are needed. In other cases, the municipal fire department goes right in and works with the plant firemen.

A most controversial subject is whether or not to equip existing tanks with permanent foam systems. The determining factors are the capacity, construction, and general condition of the tanks, the exposures to nearby properties and the comparative cost of protection in relation to probable loss. When thus equipped, the fire department is in a better position to control a tank fire promptly. However, built-in fire extinguisher systems are inflexible and will not give adequate protection without portable foam nozzles for fires external to the tanks. You may get along without permanent systems; you can't do without portable foam nozzles.

The fire department needs to have foam equipment not only for refinery and bulk storage fires, but for many chemical fires, and for fires around filling stations, tank-truck crashes, and at airports for the normal flammable liquid hazards as well as for crashes. Even if equipped with other types of fire-fighting devices, airport crash trucks should carry large capacity, entirely independent foam equipment that can be put into action immediately and at any location. All municipal firemen should not only have a practical understanding of the extinguishing value of foam but should also know the best ways to use it under various conditions.

Fighting Brush Fires with Indians

EARLY in the spring, fire departments begin receiving calls and alarms asking for aid in putting out brush fires. Calls continue to come in through the summer and into the fall. In Waterbury, Conn., for instance, our Fire Department responded to 300 brush fires in April alone. We send a particular piece of apparatus to all brush fires. It is a 300-gallon American-La France pumping engine carrying a booster pump, and with two hose lines we are in a position to attack a hot brush fire from two different points while other members of the company are sent out with Indian fire pumps.

For serious brush fires we have an excavation gang to tear up the ground to keep the fire within its area. On the other side we try to have a line ready for the fire in case there is a "jump." Fortunately, our hydrant system extends to almost all parts of the city's 29 square miles. We often start with a 2½-inch line and go to a 1¼-inch line as the fire is controlled.

Where there is actual danger from high grass and weeds, we burn off the plot, thus removing the hazard.

We have about 30 Indian fire pumps in service and have had them as part of our equipment since I took office as Chief six years ago.

THOMAS F. CAVANAUGH
Fire Chief, Waterbury, Conn.

For many years this tried method of extinguishing brush fires has also been successful in most routine interior fires, with resulting economy of apparatus wear and water damage.

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DRESSER ADJUSTABLE REPAIR SLEEVE, STYLE 82

For making repairs on circumferential pipe breaks. Low-cost, pre-assembled, and highly adjustable. Serves as ideal tapping sleeve. One man can install in 5 to 10 min. Maximum working pressure, 150 psi. Sizes 4", 6" & 8" CIP.

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For repairing breaks, splits and holes up to 8" long in straight run of cast-iron pipe, two sleeves may be joined for longer breaks. Maximum working pressure, 250 psi. Sizes 2"—12" CIP. Larger sizes are furnished in other styles.

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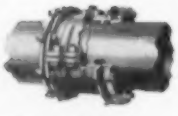

DRESSER REPAIR SLEEVE, STYLE 73

Cutaway view of typical Dresser Repair Sleeve, showing how it permanently repairs pipe or pipe joints. Style 73 encloses screw and welded joints or holes in pipe up to 8" in length. Maximum working pressure, 250 psi. Sizes 2"—12" ID.

DRESSER REPAIR SLEEVE, STYLE 93

For enclosing and permanently repairing screw collars, welded joints, or splits and holes in pipe up to 8" in length. This sleeve is of the inner pack type. Maximum working pressure, 500 psi. Sizes 12¾"—24" OD.

The first frost is the signal. That is the starting gun for the maintenance man's busy season. From then on he knows that the majority of pipeline breaks and leaks will occur. So he gets prepared. He "sizes up" the situation and sees to it that his storeroom stock of Dresser Split Repair Sleeves is ready for any emergency.

Dresser Repair Sleeves are old friends of maintenance men because they *save hours of time* and *stop leaks permanently*. Quickly installed, without service shut-down, in any kind of weather, they completely enclose leaks or breaks and provide flexibility that prevents a recurrence of the trouble. A wrench is the only tool required, and unskilled labor can do the job.

There is a standard, ready-to-use Dresser Split Sleeve (or Special) for practically every kind of repair needed on the straight run of pipe or at the joint. A few of the most commonly used sleeves are illustrated at the left.

Check up on your needs now, and let us know your requirements as far ahead as possible.

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Sewerage and Sewage Treatment

Easing Sewage Flow Through Plant

THE method of collecting and pumping sewage sludge can make the difference between a well and poorly operated plant, according to David W. Carmichael of Verona, N. J., in a paper given at the March meeting of the New Jersey Sewage Works Association.

Here is a résumé from this paper giving the critical points encountered in moving sludge through a plant and some ways of easing that flow:

Difficulty often occurs at the point where sludge is removed from the settling basins. Outlets should be of adequate size. A partial solution for this problem of small outlets may be effected if a regular pumping schedule is maintained at frequent intervals. In order to assure regular pumping one plant installed an automatic clock to control the pumping schedule.

Proper piping arrangement with relation to the viscosity of the flow material, and adequate connections for transferring the sludge and recirculating the supernatant are necessary. Viscosity may be reduced by stirring, mixing, or agitating the sludge, or by raising its temperature.

Moving sludge by gravity is definitely limited. There should be adequate pumpage. Where large quantities are handled or solids content is below 3 percent, the centrifugal type pump is best. The reciprocal type is most suitable for smaller plants or where solids content is over 8 percent.

When sewage enters the plant in a septic state, if it is allowed to remain long in the settling basin gas bubbles form in these settled solids and when this settled material is disturbed it bounces to the surface.

To operate one's settling basin properly and eliminate this problem Mr. Carmichael suggests:

1. Run the clarifier mechanism continuously or at frequent intervals.
2. Remove settled solids frequently from the hopper.
3. Eliminate septicity from the raw sewage if possible.

Sewage Plant Wrecked in Blast

ACCORDING to the *Monroe Evening News*, at 11.08 p. m. on October 4 an explosion ripped out the north wall of the Monroe, Mich., sewage treatment plant, dislodging the 6-inch concrete ceiling and shattering practically every window in the plant. The boiler room was wrecked but the engines and pumps appeared to be undamaged.

Jacob Stokes, night operator, had just left the basement shortly before the blast and had gone to the office, the only portion of the building not damaged seriously. Jacob Gerweck was on his way to the plant to relieve Mr. Stokes when the blast occurred.

The cause of the blast has not been determined, but Plant Superintendent James Godfrey said that it appeared to have been a gas explosion since there was no flash nor any sign of fire. He believes it to have been the result of a leak in one of the digesters. The digesters themselves remained undamaged, however.

Sewage is being diverted into River Raisin until the plant can be rebuilt.

This plant was built in 1937.

Inventory of U. S. Sewerage Needs

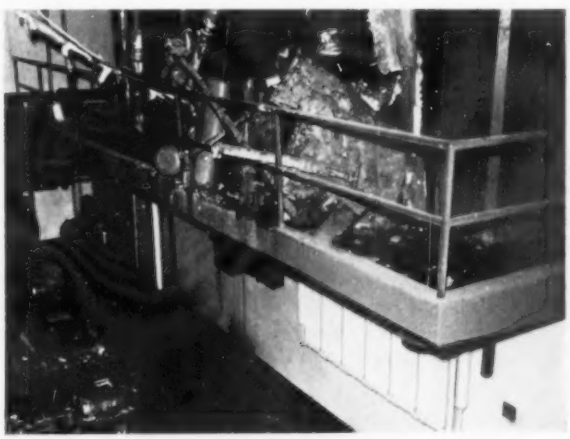
A SERIES of bulletins published this year by the United States Public Health Service contain national inventories of the need for additional sanitary facilities throughout the Untied States. These deal with the need for Water Supply, Milk Pasteurization, Sewerage facilities and Rural Sanitary facilities. Volume 59, devoted to Public Sewerage Needs, indicates the following requirements:

Present Needs	Number of Communities	Population
(1) New sewer systems needed with treatment	7,718	4,835,847
(2) New sewage treatment plants needed (for existing systems)	2,804	25,788,663
(3) Sewer extensions needed	5,555	10,297,500
Total communities requiring new treatment	10,522	30,624,510
Total communities requiring some type of sewerage facility	13,915	40,500,000

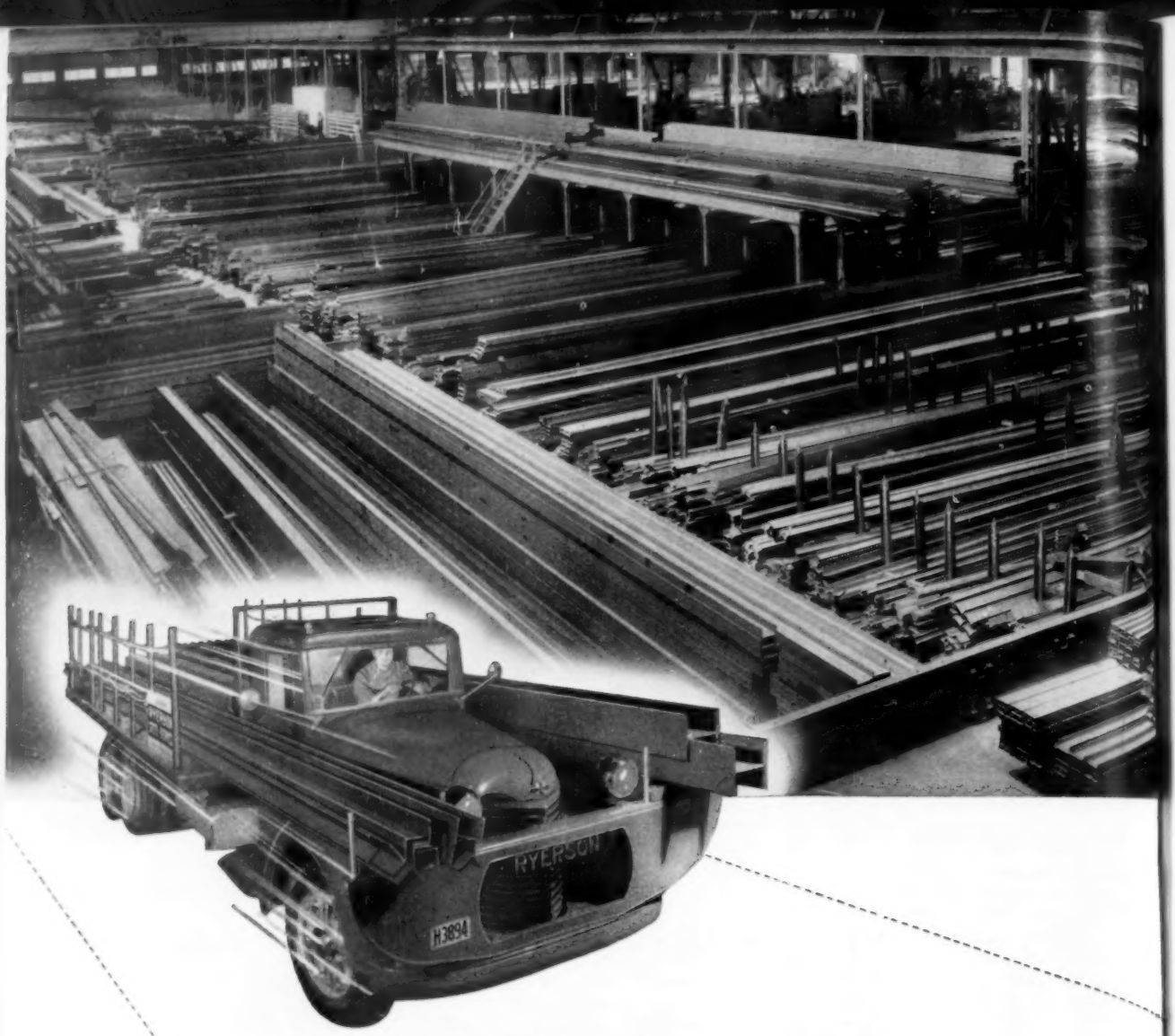
Since the estimated cost of supplying these facilities ranges well over the one billion dollars mark, it is easy to see that if each of these communities has ready a set of plans for carrying out this work when V-day arrives, the changeover from war to peace will be much less violent.

RESULTS OF EXPLOSION AT THE MONROE SEWAGE TREATMENT PLANT

The north wall of the plant was blown out and the I-beams dislodged leaving the roof in loose chunks.



The remains of the boiler. The pumps were unaffected by the blast, although all the windows of the plant were shattered.



STEEL of every kind delivered QUICKLY from STOCK

Quick shipment is Ryerson routine. We're hampered, as you are, by shortages of manpower and equipment. But the eleven plant Ryerson network means shorter shipping distances. When you need steel in a hurry, Ryerson comes through on schedule.

Every day hundreds of tons speed from our stocks to war plants and other vital steel users from coast to coast. The huge volume is built on performance. Ryerson has the steel and gets it to you fast. No order is too large for rush handling. None too small for prompt personal attention.

Bars, plates, tubing, structurals, stainless, alloys; whatever your steel requirements, get in touch with Ryerson. In Des Moines or Chillicothe, Worcester or Passaic there's a Ryerson plant nearby that has your steel in stock. More than 10,000 kinds, shapes and sizes are ready to meet your needs. Huge stocks plus immediate handling of every order make this your best source for steel. Write for a Ryerson Stock List.

RYERSON STEEL

Joseph T. Ryerson & Son, Inc., Steel-Service Plants: Chicago, Milwaukee, Detroit, St. Louis, Cincinnati, Cleveland, Pittsburgh, Philadelphia, Buffalo, New York, Boston.

Public Health

Louisville and Miami to Exterminate Rats

LOUISVILLE and Miami are planning to launch a campaign for the extermination of rats, according to the American Municipal Association.

In Louisville all places where the presence of rodents is suspected will be bombarded with special rat poison. Almost the entire city will be "land-mined" with rat traps, according to plans made by the Cleaner Louisville campaign committee.

Previous to "R-Day," the committee is preparing the public by educational programs to convince citizens of the real menace of gnawing rats. Qualified members of the health department will speak, and motion picture shorts will be shown.

"R-Day" (rat day) plans will involve the community committee's preparation of huge quantities of a selected poison to be distributed throughout the city. The city-wide nature of the program is being counted on to make the battle against rats effective, the Association said.

Community groups set up by the main committee will be on call to help residents with rat problems affecting special neighborhoods.

In Miami the drive against rats began when the public became alarmed over a recent typhus death in the city.

Citizens are urged to block all possible entrances to homes, warehouses, and other buildings with heavy metal screening. Enough red squill to bait the average home is available at cost at the office of the city's sanitation director.

Tropical Diseases After the War

THE excellent care given our fighting forces is responsible for an unbelievably low mortality among our wounded. "However," warned James C. Hart, M.D., M.P.H., in the Connecticut Health Bulletin, "Men stationed abroad will be exposed to many diseases not commonly found in the United States, and infection may not be discovered until after their discharge, so that local practitioners should make an effort to inform themselves on how to diagnose and treat such diseases."

With the exception of the dysenteries and malaria, Dr. Hart stated, civilians have little to fear from tropical diseases. There may be an increase in the number of amoebic and bacillary dysentery cases but these may be controlled by personal hygiene. There may be a few cases of malaria depending on the number of human malaria carriers and how vigilantly we attack the anopheline mosquitoes, according to Dr. Hart.

Through a better understanding of tropical medicine by the physicians of Connecticut there should be little danger of wide-spread dissemination of tropical diseases.

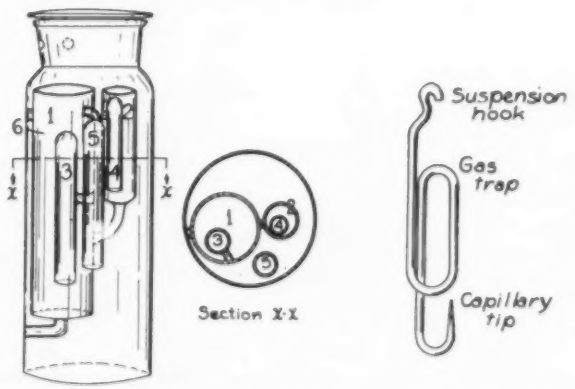
A Streamlined Determination of Coliform Bacteria

MOST of the difficulties that waterworks men have been experiencing with the detection of coliform bacteria should be eliminated with a new "coliometer" developed by A. Adler Hirsch, Instructor in Water Purification, State Department of Education, Baton Rouge, La. Mr. Hirsch gave a detailed explanation of how the coliometer works at the recent A. W. W. A. Conference held in Milwaukee.

Of chief interest is the assertion that this new apparatus overcomes the difficulties that laboratory workers have been experiencing with the 100 ml portions which in present practice seem necessary to avoid the inaccuracies of the 10 ml samples. The coliometer consists essentially of a ground-glass-stoppered bacterial sample bottle having fused in it auxiliary reservoirs of 50 and 10 ml capacities. Each reservoir and the bottom of the bottle contain an inverted vial to indicate fermentation within each different sized portion. Into this bottle is placed 2.92 gms of dehydrated lactrose broth, sufficient for 160 ml sample size, with a small amount of water before sterilization. A 100 ml sample of water may then be collected in the bottle which is so manipulated that the sample is mixed thoroughly and all tubes are filled. The sample may then be incubated without further attention. At this point provision for automatic transfer into confirmatory broth is provided by inserting a sterile loop-full into the bottom of the bottle and the 50 ml reservoir.

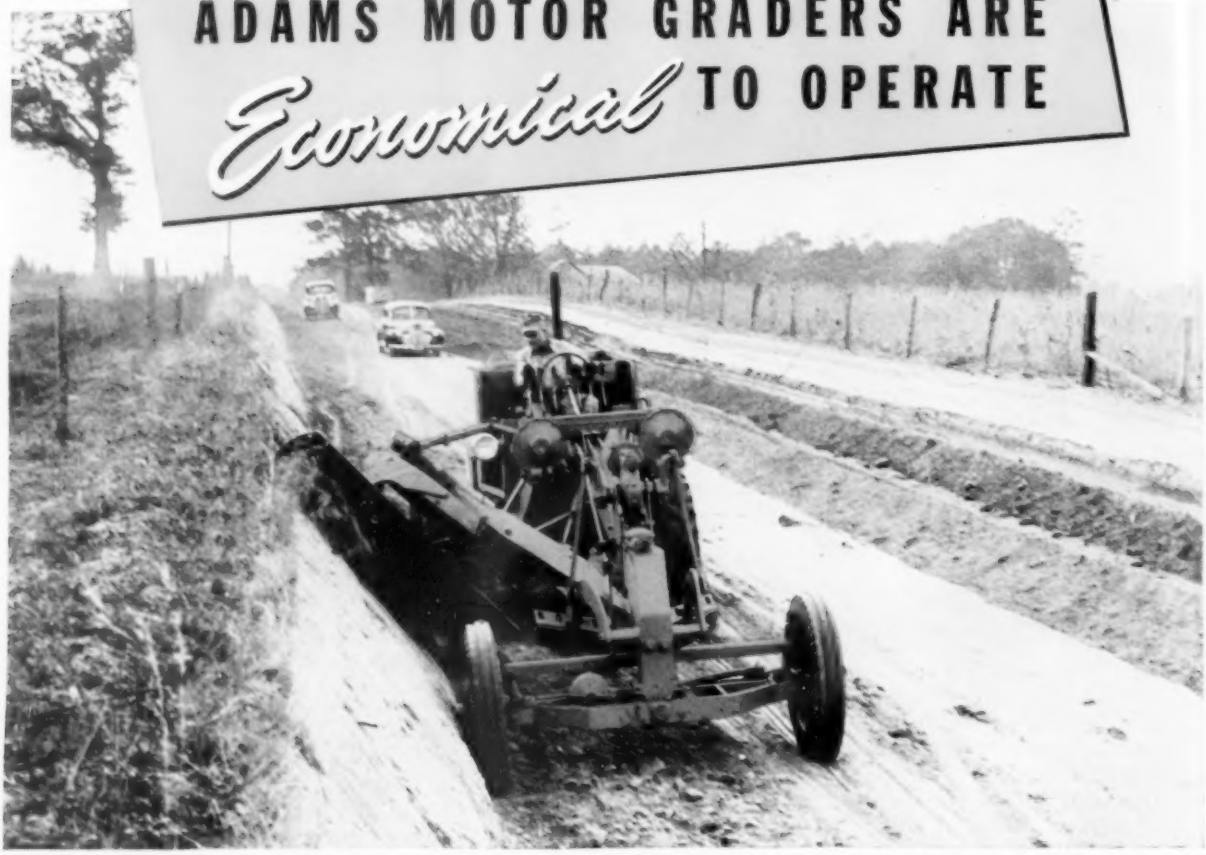
If the coliform bacteria are present in the water sample they become enriched in the lactrose broth and invade the loop through the capillary tip, causing secondary gas to collect in the trap. Incubation, observation, and interpretation, Mr. Hirsch points out, then follow in strict accordance with Standard Methods. The coliform density can be estimated accurately from the combinations of reservoir volumes giving a positive test.

Mr. Hirsch showed the several advantages that this method offers. Chief among them was the simplification of procedure allowing immediate testing of the water in the same container which served for collection. It is possible, he said, for a central station to prepare coliometers and issue them to the smaller suppliers for use on the spot. Savings in equipment, material, time, and increased accuracy also were noted.



Drawings of the Coliometer developed to simplify bacterial determinations. The container is a standard ground-glass stoppered bottle; 1 and 2 are reservoirs of 50 and 10 ml respectively. Inverted vials 3, 4, and 5, indicate gas formation in each individual reservoir. A mark, 6, shows the proper level to fill the container with water.

ADAMS MOTOR GRADERS ARE *Economical* TO OPERATE



One of a series of ads on Adams motor grader features

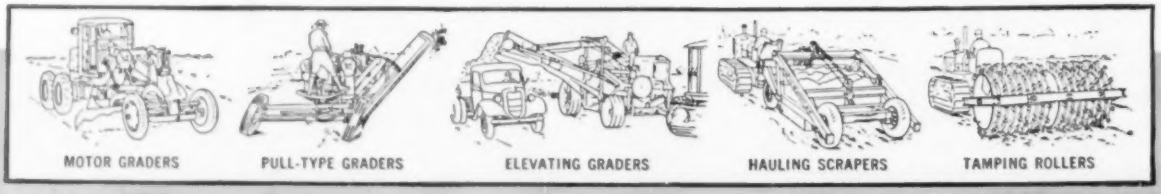
ECONOMICAL motor grader operation involves two considerations—(1) daily operating cost and (2) the machine's ability to stand up under hard usage without excessive repairs. On both considerations Adams are tops.

As to fuel consumption, there are plenty of Adams heavy-duty motor graders doing hard work today on two gallons or less of low-priced Diesel fuel per hour . . . As to maintenance, Adams machines, with their strong, all-welded and machine-finished construction, seldom need repairs; use the adjustments for wear and they will run for many months without repair parts. The International Diesel engines used have enviable records for economy and when repairs are needed, parts and service are readily obtainable anywhere at fair prices.

Add to this economy of operation their ability to adapt themselves to a wide variety of work, their abundance of power and their ease of operation and you have in Adams motor graders all of the qualities you are looking for. Plan now to standardize on Adams and ask your local Adams distributor for further details.

J. D. ADAMS COMPANY • INDIANAPOLIS, IND.

At war's end we'll need many new roads and many jobs for returning service men. Plan post war projects now and meet both needs.



ADAMS ☆ ROAD-BUILDING AND ☆ EARTH-MOVING EQUIPMENT

Streets and Street Cleaning

Boston's Mechanical Street Sweepers

DAME BOSTON is extra busy with her brooms these days. Also, she's getting a few beauty treatments such as having some wrinkles filled in and applying a little paint at strategic points.

The brooms that the city uses are of all kinds. Some are the ordinary kind that any housewife might own. Others are of a character which would hardly fit the front parlor behind the lavender panes of the old town house.

Thirteen mechanical sweepers for street work are the stars in the equipment of the Public Works Department which has the responsibility of cleaning the 710 miles of Boston's public ways, besides removing garbage, ashes, and other rubbish set out by house-holders. Two new sweepers were acquired early this year, but most of them have seen several years of at least two-shifts and some three-shifts daily service.

They're ingenious things with all kinds of gadgets. Under the front bumper is a sprinkler which sprays the street and lays the dust. At the right is a gutter broom set level with the street which sweeps gutter rubbish under the vehicle. There the main broom at the rear picks it up along with other rubbish and sweeps it onto a belt carrier which takes it to the body of the sweeper. When this is full the operator of the sweeper dumps it at some point along his route and goes on.

The machine actually turns in a report indicating the amount of work done. While the machine is moving, a needle moves around a disc which is marked like the face of a clock. When the machine stops, the needle stops and there is a break in the line traced by the needle showing that, let us say, from 9:30 to 9:45 the machine was standing still. These discs are turned in by each operator at the end of his shift. If too long or too many breaks in the needle's record are shown, the operator may be called to account.

Behind the mechanical sweepers come the pickup trucks of which the city has well over one hundred. A gang of shovelers is with each truck. One of their jobs is to shovel the loads left by the mechanical sweepers into the trucks to be carted to the disposal areas. They also do a good deal of sweeping and shoveling of their own, supplementing the work of the mechanical sweepers. They carry a much larger load and by taking the rubbish to the disposal areas they enable the sweepers to stay constantly on the job. The Public Works Commissioner is George C. Hyland.

EDWARD J. BLANCHFIELD,
Cambridge, Mass.

Pascagoula Plans

ACCORDING to J. D. Monette, Acting Chief Engineer of the Mississippi State Highway Department at Jackson, the federal government has allotted $160,000 to cover surveys, plans, right-of-way and construction costs for a much needed access highway to the Ingalls Ship Yards at Pascagoula, Miss. The project will involve sections of Canty, Dupont, and Frederick Streets of that city. Plans are now under way.

Los Angeles Plans Unusual Four-Level Grade Separation

AN UNUSUAL and new type of grade separation design has been adopted for the construction of an intersection of two new freeways in the downtown section of Los Angeles which will carry the heaviest traffic of any intersection in the city. The design provides a four level separation which will reduce traffic confusion, decrease travel distances, and increase safety.

The unusual topography of the intersection determined the nature of the design.

Level 1 was fixed at a grade 22 feet below the ground surface because that was the lowest point that could be drained by the city storm sewers. This level provides two 24-foot one-way roadways and will connect Arroyo Seco and Hollywood Parkways.

Level 2 will be located about ground level and will be the Arroyo Seco Parkway, a 6-lane freeway with a median separation strip.

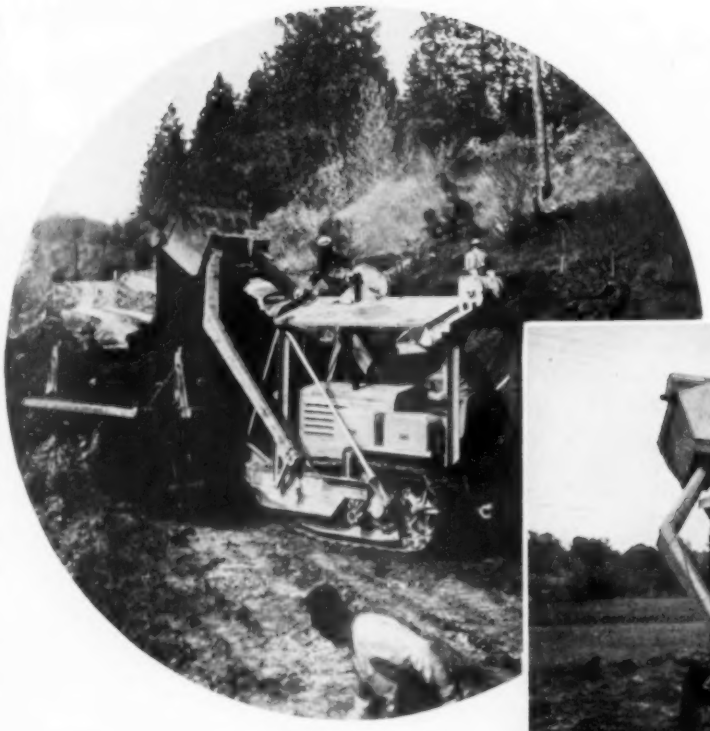
Level 3 will be composed of two 24-foot one-way roadways elevated similar to the usual overpass and will connect Hollywood and the Arroyo Seco Parkways.

Level 4 will be an 8-lane freeway with a median strip and will be on a supported grade with a smooth grade to bridge the higher ground level on either side.

The whole structure will be supported by 9 reinforced concrete pillars extending from the foundation to the fourth level, a height of 69 feet (47 feet above ground surface).

The four-level scheme was first proposed by W. H. Irish, district location engineer. The preliminary studies and the detailed design were conducted under the supervision of S. V. Cortelyou, district engineer for the California Division of Highways at Los Angeles, with the aid of the City Engineering Department, Los Angeles. This project is slated for post-war construction.

A complete view of the model for the Los Angeles four-level grade separation.



The

SARGENT OVERHEAD

LOADS ALL MATERIALS FAST, ON LEVEL OR SLOPING GROUND

We don't mean to be snooty, but we can't help it. . . .

When we compare the Sargent Overhead with other tractor loaders we realize that we really have something. . . .

Because the Sargent Overhead will load sand, and clay, and gravel, and boulders, and loam, and broken concrete pavement, with the simple ease and movement of a farmer loading a hay wagon. . . .

With an easy but powerful straight line action, you dig into the material, swing 'er overhead, and dump in any spot in the truck. . .

There is never any twisting and turning; you load and dump simply, either on level ground or on a slope. . . .

These are real tests of sound design. . . .

If you have grading to do, you can attach the rugged Sargent Bulldozer to the machine in 15 minutes, and you'll have a bulldozing blade with more down pressure than any bulldozer on the market.

MAINE STEEL
INCORPORATED
SOUTH PORTLAND, MAINE

PUBLIC WORKS DEPARTMENT
Please take notice

The Sargent Overhead is a great utility machine that will earn its oats in your department every day throughout the year. It's not only a fast and rugged power shovel that will dig up and load from a street surface or an inclined gravel bank, but it's a dependable one-man snow loader, a powerful bulldozer, an efficient crane; and it's a crawler tractor, for hauling and snow plowing.

The Sargent Overhead is a "natural" for city, town, county or state public works departments.

Stop—Check and Mail

Please check over the above list of interesting catalogs obtainable free of charge and either write direct to the manufacturers for their literature, or, if you prefer, put a circle around the identifying numbers below to indicate the catalogs you want, mail this coupon to The American City Magazine, 470 Fourth Ave., New York 16, and we will see that catalogs are sent to you without expense or obligation on your part.

11/44

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Name _____ Position _____

Address _____

Adjustable Snow Plow Equipment

458. In order to keep roads open and traffic moving after a snow storm equipment that can be fitted to every need is essential. Adjustable snow plows for track-type tractors, trucks, and motor graders are the subject of a new catalog by the Wentz Equipment Co., 600 N. Van Buren St., Topeka, Kan. This discusses the various models available giving details on their construction and the ease with which they are adjusted to existing equipment and specifications.

Simplify the Process of Voting

459. Municipalities still laboring with old fashioned methods of voting may receive from the Automatic Voting Machine Corp., Jamestown 55, N. Y., descriptive literature on the Automatic voting machines. Here is the means for you to obtain immediate election returns as well as an automatic and accurate vote count, at the same time saving time and money that would be involved in laborsome voting and counting involving paper ballots.

Equipment for Treating Water and Sewage

460. Literature on types of equipment for the treatment of water and sewage is available from Infilco, Inc., 325 W. 25th Pl., Chicago 16, Ill. These include accelators, aerators, chemical feeders, coagulators, clarifiers, lime slakers, recarbonators, rotary distributors, and water softeners.

Fibres for Street Sweepers

461 Is maintenance of mechanical sweepers a problem in your community? The Otto Gerdau Co., 82 Wall St., New York 5, N. Y., will send you samples and quotations on its fresh fibres with which it is ready to service all types and sizes of mechanical sweepers.

Protect Steel Tanks from Corrosion

462. Steel water tanks and standpipes can be protected against corrosion through the use of the Rustop method. Electro Rust-Proofing Corp., Dayton 10, Ohio, will send you information on installation and operation, showing how this cathodic method will not only remove rust on submerged surfaces but will keep rust from forming any time in the future.

Rollers for Maintenance Work

463. If you are looking for a medium roller for repairing and maintenance work on streets and airports, you will be interested in a folder being offered by the H. W. Lewis Equipment Co., 431 Hoefgen Ave., San Antonio 3, Texas. This deals with the three models of Pierce Power Rollers and their various features including their compactness which makes them ideal for this type of work.

High Pressure Lubricating

464. Municipal plants, especially street departments, that have a large amount of machinery and equipment needing frequent lubrication, will be interested in Bulletin No. 201 of the Lincoln Engineering Co., St. Louis 20, Mo., on its Powerluber. This is equipped with an air-operating pumping unit that permits fast delivery of lubricants at high pressure. The Powerluber is dustproof, can be operated by one man, and has a container capacity of 60 pounds.

Fire Fighting Trucks

465. Cities planning to purchase fire apparatus after the war may like to see what type of equipment other cities are using. Oren Fire Apparatus Co., Roanoke, Va., has published a booklet illustrating and giving specifications on various trucks that are now in use by municipalities in different parts of the country.

Centrifugal Pumps of Increased Efficiency

466. Bulletin 164 of the Morris Machine Works, Baldwinsville, N. Y., is a discussion of the company's Double-Suction Horizontally-Split Pump. The folder points to recent advances in centrifugal pump practice in connection with hydraulic and mechanical losses and includes details on design and connection features that distinguish the Morris pump and promote increased hydraulic and mechanical efficiency.

Boring Machine for Laying Pipe

467. A machine which saves digging by boring horizontally for underground pipe installation is the subject of literature offered by Hydrauger Corp., Ltd., 116 New Montgomery St., San Francisco, Calif. "The Mechanical Gopher" drills rapidly and accurately through sand, clay, rock, and shale to form a smooth hole through which pipe may be installed.

Rubber Clothing for Police and Firemen

468. Up-to-date fire and police departments will be interested in Catalog 942 offered by the Midwestern Mfg. Co., Mackinaw, Ill., dealing with rubber and canvas clothing for police and firemen. This catalog illustrates and gives details of the various standard models available, their safety features, visibility, and information on the material that goes into them. Also discussed are the coats with yellow stripes woven into the materials recently introduced to provide greater visibility under all conditions.

Water Meters

469. Information on the Empire Streeemline Meters employing the balanced oscillating piston design may be obtained from the Pittsburgh Equitable Meter Co., Pittsburgh 8, Pa. These meters come in sizes ranging from ⅝-inch to one inch.

Garbage Disposal Trucks

470. Garbage disposal officials can secure valuable bulletins from The Heil Co., Milwaukee 1, Wis., on its garbage disposal bodies. Special styles and models to meet your specific needs are available, but their main attraction to your employees is their easy loading height.

Water and Sewage Control Equipment

471. Water and sewage officials will find of interest Catalog A-300 being offered by the Mueller Co., Decatur, Ill. This is a collection of data on the Mueller-Columbian line of water and sewage control equipment and includes operation data, specifications and typical installation material on sluice gates, floor stands, gate hoists, bench stands, shear gates, and flap, mud, gate, check and foot valves.

Visible File for Tax Records

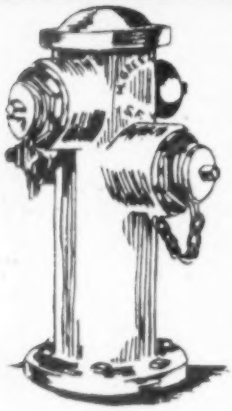
472. Tax offices throughout the country are making use of the Kardex Visible Tax Office File. Systems Division, Remington Rand, Buffalo 5, N. Y., will send you operation details on this system which makes possible the combining of permanent assessment records with a separate card showing details on delinquencies, instant detection because of visible margins, and recognition of delinquents through the use of colored signals.

Totalizing Flow Meter

473. The Builders Propeloflo Totalizing Flow Meter for Main Lines is a simple propellor-type meter, direct reading and accurate over a wide range, driven by the flow itself, and installed as readily as a section of pipe. For full details write Builders-Providence, Inc. (division of Builders Iron Foundry), 9 Codding St., Providence 1, R. I., for Bulletin 350.

(Continued on page 20)

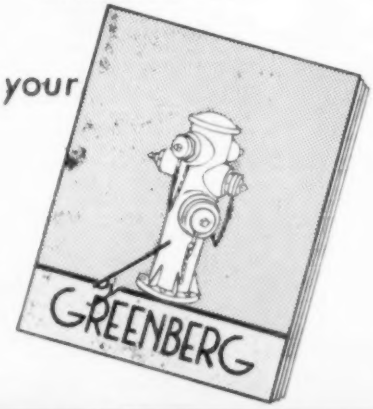
A COMPLETE HYDRANT SERVICE



Originators of the CALIFORNIA type of Hydrant, with INDIVIDUAL, integrally constructed globe type valves on all outlets. We have manufactured and sold this type of Fire Hydrant with its various improvements continuously for over seventy-five years. This is the Fire Fighter's Ideal Hydrant for use in non-freezing climates. Sold through your jobber.

FOR THE COMPLETE
Story of Hydrants for all Climates . . .

Send for your
FREE
COPY OF "HYDRANTS BY GREENBERG"



STABILITY
Since 1854

M. GREENBERG'S SONS
765 FOLSOM STREET ● SAN FRANCISCO, 7

CHECK THIS COLUMN— AND USE COUPON ON PAGE 19

(*Continued from page 19*)

Does Sewage Gas Corrode Your Equipment?

474. Are you allowing equipment in your sewage treatment plant to be damaged by hydrogen sulphide corrosion? Connelly Iron Sponge & Governor Co., 3154 South California Ave., Chicago 8, Ill., is ready to help you find out, with free instructions and a prepared test paper which you need only expose to the sewage gas in your plant. If you mail it back to the company, it will be submitted to a laboratory test to see if corrosive action is taking place.

Machine Does a Complete Job of Snow Removal

475. Street and airport officials faced with the task of keeping streets and runways clear of snow during the winter months may secure helpful information from the Klauer Mfg. Co., Dubuque, Iowa, on the Snogo which does a complete job of snow removal. Literature shows that Snogo equipment makes it possible to pick up the snow and load it in trucks in one operation, thus eliminating any drifts or slush and providing a clean street surface.

Control Equipment for Water and Sewage Works

476. A brochure of valuable information is available from the Automatic Control Co., 1005 University Ave., St. Paul 4, Minn. Various single bulletins are grouped together here to present data on the company's control equipment for water works and sewage disposal. Under the general headings of Elevated Tank Control, Pressure Tanks, and Float Operated Control, they present general information on the application of its products in these categories.

Regulate Parking with Meters

477. Parking meters relieve traffic congestion in shopping areas. Mi-Co Meter Corp., 231 Court St., Covington, Ky., will send you a fully illustrated folder giving specifications and details of the Mi-Co parking meter. It aims to prove the meter's simple practicability.

Line of Fire Pumps

478. Get acquainted with a new line of 500- to 1,500-gallon single-stage, double suction fire and booster pumps for low-cost protection. Approved by Underwriters Laboratories, the pumps include brass plugs, umbrella cock, increasers, capacity plate mounted on base plate, and are direct-connected to driver by flexible coupling. Write for Bulletin B6336 from the Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.

Cast Iron Pipe Easily Jointed

479. No pipe calking, no pouring of lead, no bell holes to dig, speed of installation in water and sewer lines—these advantages are set forth in the Universal Catalog obtainable from the Central Foundry Co., 386 Fourth Ave., New York 16, N. Y.

Improve Water Capacity

480. If the capacity of your water works pipe has been reduced somewhat why not look into the National Method of cleaning these mains of accumulated foreign matter. The National Water Main Cleaning Co., 30 Church St., New York 7, N. Y., will send you illustrated literature discussing the results other municipalities have obtained—especially improvement in pressure and the carrying capacity of their mains, and a reduction of fire losses caused by inadequate water pressure.

Many Purpose Excavator

481. Data on the Traxcavator may be obtained from the Trackson Co., Milwaukee 1, Wis. Information shows that this equipment, powered by Caterpillar track-type tractors, can be used on a variety of jobs in your community including street work, excavating, dirt moving, loading, hauling, grading and leveling, ditching, park and playground work, and snow removal.

Sewer Pipe

482. If your post-war projects include the construction of sewer lines you will want to have details on Asbestos-Bonded Armco Sewer Pipe from the Armco Drainage Products Assn., 15 Curtis St., Middletown, Ohio. The flexible corrugated metal design prevents breakage, and the band couplers make for strong, tight joints.

Air Compressors for Every Need

483. Air compressors for public utilities is the subject of a new bulletin offered by Schramm, Inc., West Chester, Pa. On-the-job photographs show the variety of uses that these compressors serve including drilling holes, removing concrete blocks, pavement breaking, drilling in trenches.

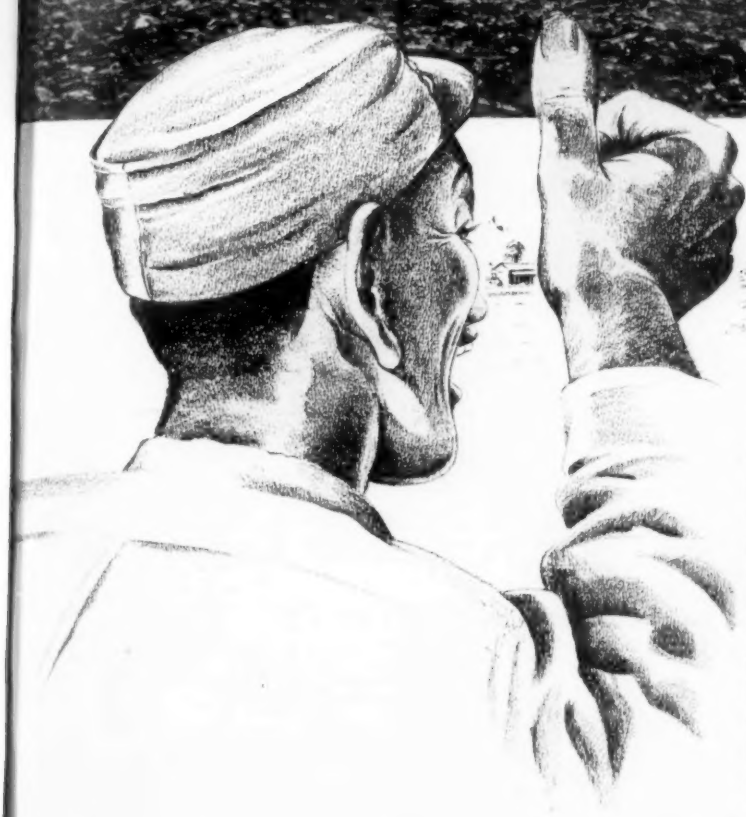
Highway Delineators

484. Cataphote Corp., Toledo, Ohio, will send you a folder and complete information on its Reflecting Roadside Outliners for installation on highways to guide traffic after dark.

(*Continued on page 22*)

"DING HAO!"

("EVERYTHING'S OKAY")



SHOUTS of "Ding hao!" from grinning Chinese workers greeted B-29 fliers when they returned to China's air bases from their first bombing of the Nips' homeland. "Everything's okay!". . . now that Allied bombs repay a long-standing debt. Forgotten are the toil, sweat and blood put into the superfortress fields.

But history will not forget. Recorded for all time is the seemingly impossible feat a half-million Chinese workers accomplished with bare hands and makeshift tools. Longer and more level than any previously constructed forward combat fields are China's vast system of B-29 strips — "so long that a man at one end of the strip can scarcely distinguish a man at the other."

If only tractors with rollers, bulldozers and scrapers . . . motor graders and other construction tools could have been available!

A main part of the supplies of all Armed Forces, construction machines are being used IN FORCE, in every theater of war, where it is at all possible to ship, fly or truck them. Ingenuity and mass manpower is the only answer to their lack. Fortunately, China had both. We join in paying tribute to a brave nation. To their "Ding hao!" we say "MORE POWER". . . on land as well as in the air . . . and it will come soon!

ALLIS-CHALMERS

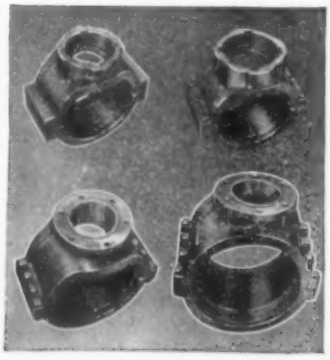
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

SMITH
TAPPING SLEEVES

MAKING PRESSURE CONNECTIONS

Without Stopping the Service

SMITH Tapping Sleeves for making pressure connections to A. W. W. A. standard mains, classes A, B and C, and for pressures up to 150 lbs. per square inch, are made in four types, here illustrated. At top: 1. Clamped Sleeve Joint; 2. Bolted Sleeve Joint. Bottom row: 3. Bolted Sleeve Joint with flanged end joint valve connection; 4. Hackensack Sleeve Joint with flanged end joint valve connection.



A. P. SMITH
TAPPING
SLEEVES

OTHER SMITH PRODUCTS

Valves and Hydrants
Valve Inserting Machines
Tapping Sleeves
Tapping Valves
Hat Flanges
and Water Meters

Write for Catalog

Branches

7 So. Dearborn St., Chicago 3, Ill.
409 Texas St., El Paso, Texas
315 N. Crescent St., Flandreau, S. D.
221 Mortgage Guarantee Building, Atlanta 3, Ga.
428 13th St., Oakland 12, Calif.
524 First Ave. S., Seattle, Wash.
1317 Oakley Street, Orlando, Fla.

THE A. P. SMITH MFG. CO. EAST ORANGE NEW JERSEY

CHECK THIS COLUMN— AND USE COUPON ON PAGE 19

(Continued from page 20)

How's Your Airport?

485. Is your community preparing to take its place in the national airway system that is developing for the post-war era? A valuable illustrated booklet entitled "What Your Towns Needs for the Coming Air Age" is available from the Piper Aircraft Corp., Dept. AC114W, Lock Haven, Pa.

Safeguard Highway Curves

486. Tuthill highway guard rails permit highway safety through their ability to cushion shock on impact as well as their deflection of vehicles when they hit the rail, making it possible to guard the passengers and the vehicle. Tuthill Co., 760 Poly St., Chicago, Ill., will be glad to send you data giving other advantages and the details about this equipment.

Measure and Record Vehicle Movement

487. Municipalities making post-war plans will find the Traficounter a valuable aid in compiling traffic data and measurements including how much traffic there is over roads and streets, when it moves, and in what channels. Street-Amet Co., 4101 Ravenswood Ave., Chicago 13, Ill., will be glad of an opportunity to send you literature about its Traficounter.

Air-Cooled Motors

488. Information may be secured from Briggs & Stratton Corp., Milwaukee 1, Wis., on the design, engineering, and research features that go into its 4-cycle air cooled motors. The air cooled system helps maintain correct operation temperatures under all conditions.

Keep Sewerage Systems Clear

489. Are you keeping your sewerage system in 100 percent operating condition? Literature is available from the Champion Corp., 4716 Sheffield Ave., Hammond, Ind., on the O. K. Champion sewer cleaner, showing how cities are putting this to good use for cleaning their sewers. This machine is available now in two sizes of hand operated models.

Sewage Treatment Process

490. Sewage treatment officials may secure a copy of Bulletin No. 259 from the American Well Works, Aurora, Ill. This gives descriptive information on the process known as Bio-Activation and points out how it combines qualities of both the trickling filter and the activated sludge processes to produce a stable effluent low in BOD and suspended solids. Literature includes typical operating results.

Fire Engines

491. Are you contemplating enlargement or replacements of your fire equipment after the war? American-LaFrance-Foamite Corp., Elmira, N. Y., will supply you with information concerning the durability and performance of its fire engines, and especially the powerful V-12 motors and the centraflow pump built into its engines.

Chemicals for Municipal Use

492. To aid municipal operations, The Dow Chemical Co., Midland, Mich., offers chemicals including ferric chloride for sewage treatment, Dowflake calcium chloride for control of dust and ice, caustic soda and insecticides.

Water Works Equipment

493. Joseph G. Pollard Co., Inc., 141 Ashland Pl., Brooklyn 1, N. Y., will supply municipalities with information on the Fisher M-Scope and leak detectors, as well as a complete line of pipeline equipment.

Centrifugal Pumps

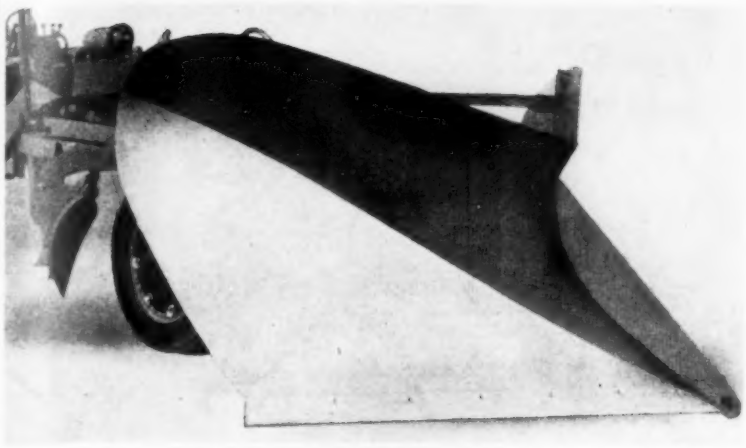
494. American Marsh Pumps, Inc., Battle Creek, Mich., offers Bulletins 350A and 380A containing data about sizes, types, and the wide range of capacities and pressures of its centrifugal pumps. These pumps are adaptable to electric motor, steam, turbine, gasoline, or Diesel engine drive. The bulletins also contain information about their service and efficiency records.

Courses to Train City Administrators

495. A circular will be sent on request by the International City Managers' Assn., 1313 E. 60th St., Chicago 37, Ill., giving details on its nine practical correspondence courses that have been organized to train city officials and their assistants.

Road Rollers

496. Literature is available on road rollers from the Austin-Western Co., Aurora, Ill. This catalog discusses the Tandem, Autocrat, Cadet and Roll-A-Plane models. You will find illustrations and descriptions of these rollers giving information on their various features, sizes, construction and operating data.



Adjustable

MOTOR GRADER SNOW PLOWS

V TYPE

MODEL M - MM

The Wentz Adjustable Motor Grader "V" Type Snow Plow can be furnished in sizes to fit the various makes and models of motor graders, both standard and wide tread.

Wentz Motor Grader plows are of the same heavy construction and scientific design as Wentz track type tractor plows. Exclusive features allow plows to be adjusted to fit grader equipment you now have. Write for booklet.

SPECIFICATIONS

	Model "M"—8'	Model "MM"—10'
Width of Cut	8' 6"	10' 2"
Moldboard Thickness	3/16"	3/16"
Height at Front End	40"	45"
Height at Rear End	58"	62"
Lifting Height	12"	12"
Draft Members	6"x6" H-Beam	6"x6" H-Beam
Push Members	6" I-Beam	6" I-Beam
Adjustable Shoes with Detachable Skid Plates	Yes	Yes
Size of Skid Plates	6"x16"	6"x16"
Weight (approximately)	1750 lbs.	2275 lbs.

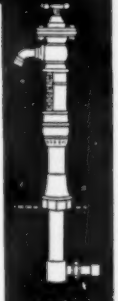
WENTZ EQUIPMENT CO.
600 N. Van Buren St., Topeka, Kans.

THERE IS A WENTZ PLOW FOR EVERY SNOW MOVING JOB

MURDOCK

SINCE 1853

SELF-CLOSING ANTI-FREEZING HYDRANT



ANTI-FREEZING COMPRESSION HYDRANT

Keep 'em Looking Like New All the Time

Just one coat of Green Paint (polish Bowl) will keep your MURDOCK Outdoor Drinking Fountains attractive and inviting all winter.

Repaint Hydrants, too, at least once each year and prolong their life.

So easy to keep them looking like new is another of several reasons why "It Pays to Buy MURDOCK."

The Murdock Mfg. & Sup. Co.
426 Plum St. Cincinnati 2, Ohio

LARGE ANTI-FREEZING HYDRANTS 1½" TO 2" INCLUSIVE

"LOCK-LID" STREET WASHERS ¾" and 1" SIZES

"Air-Lock" ANTI-FREEZING OUTDOOR DRINKING FOUNTAIN

WHY FLINK *Ice Control* IS 6 TIMES FASTER

Spreads at 12 to 20 Miles Per Hour.

Flink one man material spreader, Model WD3, equipped with Flink clutch control, is today's best answer to the danger of sudden freezes and the shortage of men and equipment. One man driving a Flink equipped truck can rapidly bring under control many miles of icy streets. Intermittent spreading has been made possible without stopping truck until it is emptied.

Self-feeding. No helper is needed. Saves men and expense. Fits all dump trucks. Attaches like original end gate. Spreads forward or backward, full or half width of streets, thick or thin, all materials up to 1".

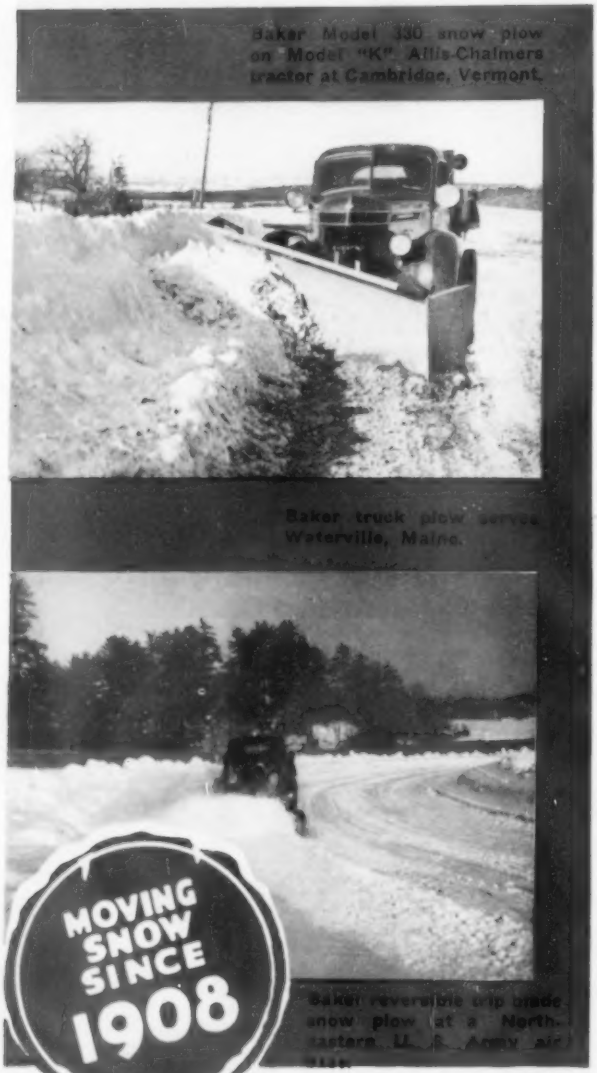
Does not limit use of truck. Truck can be dumped as with original end gate, or spreader can be replaced by original end gate in 5 minutes. When not spreading material use dump truck for any other purpose. Write for complete literature.

Flink Spreaders are used for road, street, and highway work, and for spreading agricultural limestone.

The FLINK COMPANY

502 VERMILION STREATOR, ILLINOIS

Get Your BAKER Snow Plow Out of the "Mothballs"!



Baker Model 330 snow plow on Model "K" Allis-Chalmers tractor at Cambridge, Vermont.

Baker truck plow service Waterville, Maine.

Baker reversible trip blade snow plow at a Northeastern U. S. Army air base.

MOVING SNOW SINCE 1908

Whether there be more or less snow than normal during the coming winter, one thing is certain. Every Baker snow plow must be kept in prime operating condition. There will be few if any new ones available this season. The needs of our fighting forces must come first.

So get out your Baker plow from its summer hide-out and take care of the tuning-up, painting and lubrication required to put it in tip-top shape. By doing this now, you will have time to procure any needed replacement parts. If you treat a Baker right, it will give you a lot of additional service.

We hoped to furnish more new Bakers to municipalities and highway departments this fall, but wartime requirements continue to absorb most of our output.

We ask for patience on the part of those who expected to get new Baker snow plows this season. The time is coming when there will again be plenty of Bakers—truck and tractor plows—in "V," landside and reversible trip blade types. A Baker snow plow is worth waiting for.

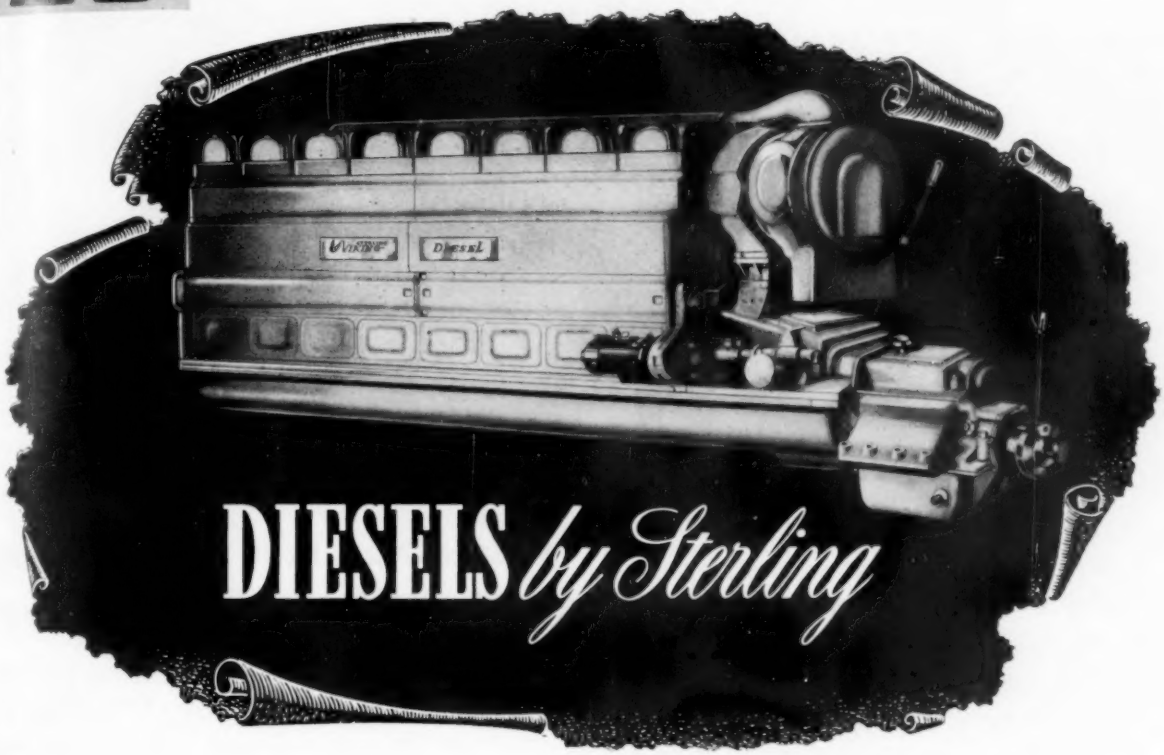
THE BAKER MFG. CO.

503 Stanford Ave., Springfield, Ill.

If it concerns Victory, it concerns us!

BULLDOZERS SNOW PLOWS **BAKER** CONSTRUCTION EQUIPMENT

ENGINEERED FOR THE FUTURE
...AVAILABLE NOW



FIFTEEN years have been spent in designing, building and testing the new Sterling Viking diesel. Now the engine of the future is ready for you today.

Into this masterpiece of engineering design and craftsmanship has been built the most advanced thinking of our times to give you an engine as compact and efficient as a gasoline engine of the same power rating—plus the economy of diesel fuel.

It bears a name which for forty years has been the mark of dependability.

If you are planning a change in your war-tired power plant—write for complete specifications of the Sterling Viking diesel—newest in the line of Sterling engines—diesel, gasoline or gas ranging in power from 85 hp. to 1200 hp.

"KEEP BUYING WAR BONDS"

ARMY E NAVY

STERLING
VIKING DIESEL

STERLING ENGINE COMPANY 1290 Niagara St., Buffalo 13, N. Y.
New York City, 900 Chrysler Bldg. • Washington, D. C., 806 Evans Bldg. • Chicago, Illinois, 855 Board of Trade Bldg.

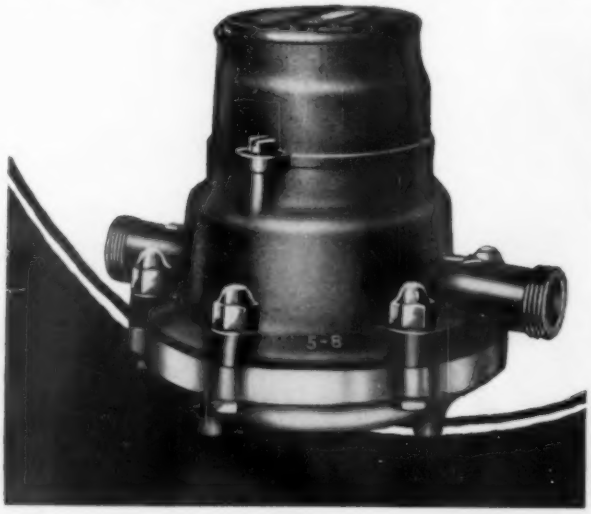
"POST-WAR"
is already here for
BUFFALO-MADE AMERICAN BRONZE-CASE WATER METERS

The quality and performance you want in post-war meters are already being built into every Buffalo-made water meter.

With bronze-case meter manufacture resumed, waterworks can plan now for the metering programs delayed by war conditions.

Full information and prices on request to

BUFFALO METER COMPANY
2902 Main Street Buffalo 14, N. Y.



First reader in fire protection

FREE BOOK tells how to keep extinguishers in fighting form

Make sure the extinguishers at plants in *your* city will always be ready to nip blazes before they get out of hand. Regular inspection is the only safe way.

This new book, issued by Walter Kidde & Company, will help plants set up their own maintenance system. It covers all types of equipment, gives exact instructions for examining and recharging. Write for free copies today! Just ask for "Inspection and Maintenance of First Aid Fire Extinguishers."

CHAPTER HEADINGS INCLUDE:

WHO'S IN CHARGE?
KEEPING RECORDS
MARKING THE EXTINGUISHERS
INSPECTION OF EXTINGUISHERS
VAPORIZING LIQUID EXTINGUISHERS
CARBON DIOXIDE EXTINGUISHERS
SODA-ACID EXTINGUISHERS
FOAM EXTINGUISHERS

WALTER KIDDE & COMPANY, INC.
140 CEDAR STREET, NEW YORK 6, N. Y.

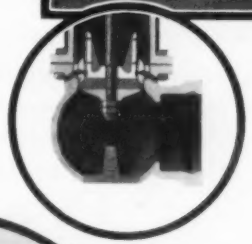
THERE SHE GOES!

And it is a shame, too. It might have been saved, for what at first was only a small blaze turned out to be a major conflagration in a short time. No matter how efficient your firemen may be—no matter how fine are your trucks and equipment, if precious minutes are lost at the scene of the fire, fighting a stubborn fire hydrant, it can mean the complete destruction of many buildings. Delay from any cause—even for a few minutes—is disastrous and causes fire losses to mount.

Make certain that your firemen do not have hydrant trouble by specifying MUELLER-COLUMBIAN Improved Fire Hydrants. With cold weather coming on, here is a hydrant that can withstand the rigors of freezing and ice. The self-oiling bonnet section with the weather-proof cap will not stick, bind, rust or freeze in any climate.

The big feature, however, is the bronze-bushed dual drain valves which are an integral part of the main valve. When the hydrant is closed after using, these positively operated valves drain the barrel completely dry. It cannot ever freeze, assuring you that there will never be delays from ice and freezing. As a further protection, when the main valve is first opened, water under pressure is forced through the drain openings for an instant and all foreign substances are washed out thus making certain that drain ports are always open. A dry barrel is never subject to rust and freezing.

For description of the many other features that can save your city money write for our new MUELLER-COLUMBIAN Improved Fire Hydrant Folder just off the press.

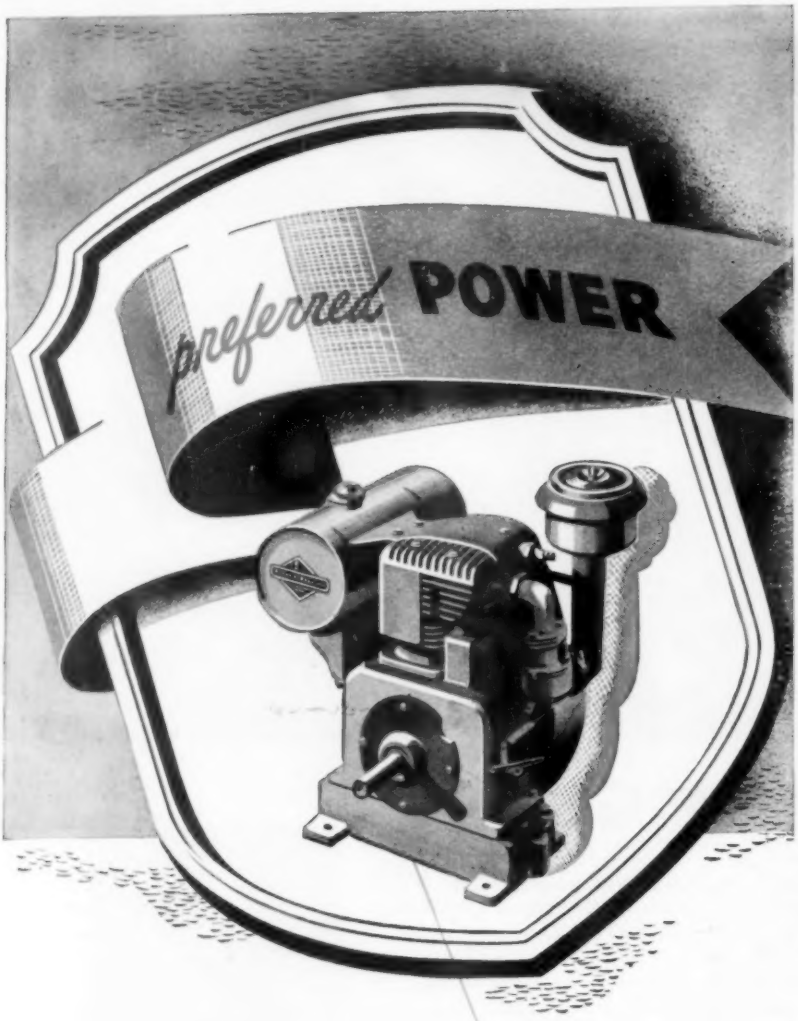


MUELLER CO.
CHATTANOOGA 1, TENN.
Decatur 70, Illinois
Los Angeles 23, Calif.

MUELLER-COLUMBIAN
FOUNDED 1857

DON'T LET UP NOW!
BUY MORE WAR BONDS

GET THE HYDRANT FIREMEN PREFER



That's the "rating" for
Briggs & Stratton 4-cycle, air-cooled gasoline engines—
leaders in the field . . . Preferred power—
based on the performance record of over 2,000,000
of these engines with their watch-like precision . . .
the result of twenty-five years of continuous production,
plus constant research and refinement.

Air-Cooled Power 4 CYCLE BRIGGS & STRATTON GASOLINE ENGINES

Preferred Power, by manufacturers, by distributors and dealers, by owners and users . . . for hundreds of uses and applications . . . because of *trouble-free performance,* easy starting, and economy of operation. Because of year after year of dependable service with minimum care or attention. We are now ready to help you plan for peacetime production of gasoline powered equipment, tools and appliances. BRIGGS & STRATTON CORP., Milwaukee 1, Wisconsin, U. S. A.

WHY—

The above illustration shows the position of the rubber lining in

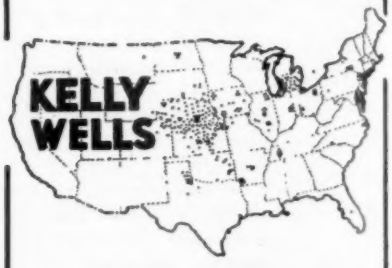
Bi-Lateral Fire Hose

when it is held in a flattened position between calls into service. This is why we can save a city one replacement, because the hose will give double the service of any hose constructed under the old method.

—Also—

We can load 25% more on the apparatus-bed, actually making an $8,000 truck loaded with the Bi-Lateral construction, cheaper than one priced at $7,000 when loaded with other construction.

BI-LATERAL FIRE HOSE CO.
20 N. Wacker Drive, Chicago, Illinois



ALL OVER THE MAP!

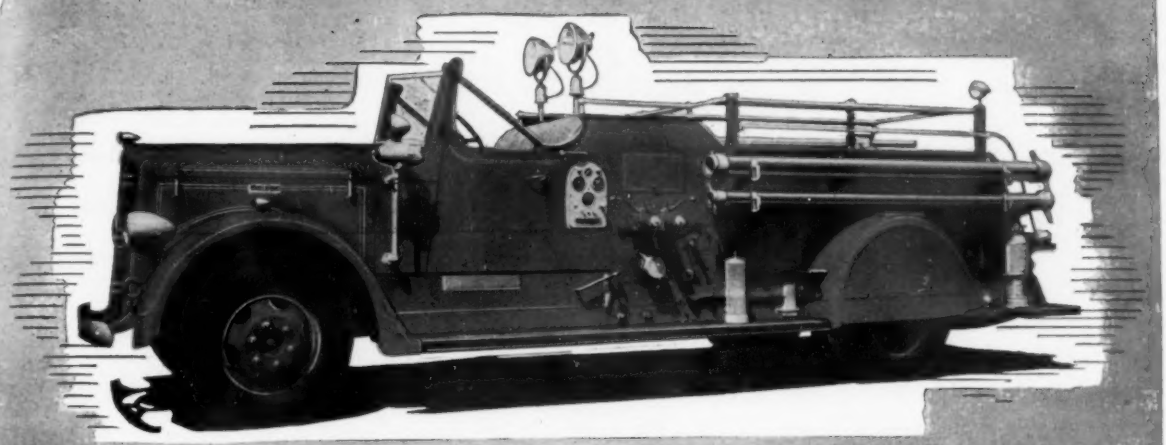
For 25 years Kelly concrete cased wells have stood the test of time. We have several thousand now in service, covering a territory of 33 states and parts of Canada.

Kelly concrete cased wells are especially adapted for developing large water supplies from sand and gravel formations.

We Guarantee our wells to develop all available water, sand free, to their full capacity.

KELLY WELL CO., INC.
Grand Island, Neb.

THE CHOICE OF EXPERIENCE



QUICK FACTS

(About Model 75T*, Illustrated)

Overall Length: 23 ft. 6 in.

Weight (no load): 11,600 lbs.

Cylinders: 6

Wheelbase: 174 in.

Turning Radius: 30 ft.

Horsepower: 150

Pump: 750 G. P. M.

Hose Capacity:
1200 ft. 2½ in. hose
400 ft. 1½ in. hose

Booster Tank: 250 gals.

*Subject to W. P. B. Limitation Order L-43, under which certain models may be ordered only for postwar delivery

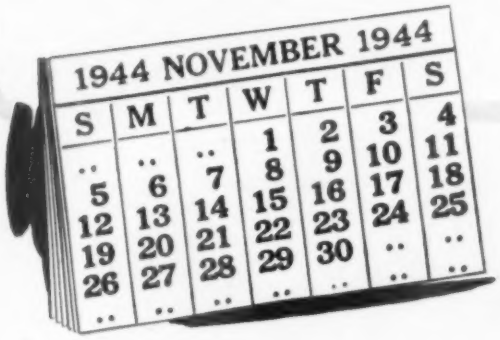
The Volunteer Fire Department at Floral Park, L. I., N.Y. has an exact and practical knowledge of the fire-fighting needs of the community it serves. It should, for the average member has well over ten years of service to guide him, and several are still active after twenty-five years. Supplementing their practical experience in fighting fires, all members are constantly trained in the use of the most modern methods and equipment.

On three separate occasions, these practical people have found the exact fit for their requirements in Ward La France Pumpers. You can, too, whether yours is a large city or a small town — whether you have formulated an exact set of specifications, or want the seasoned experience of a staff of fire equipment engineering specialists. Because of the completeness of a Ward LaFrance,* the advantages of equipment engineered to the job usually entails little or no additional cost. Write

WARD LAFRANCE TRUCK DIVISION
GREAT AMERICAN INDUSTRIES, INC., ELMIRA, N. Y.

WARD LAFRANCE

Time to order a carload of Good public relations!



State, county and city officials know the value of good public relations. They know, too, that the surest way to enjoy good public relations is to give good public service.

STERLING "Auger-Action" Rock Salt will help hundreds of street and highway maintenance engineers give good public service this winter — just as it has helped them in many a winter before — by keeping roads and streets open, free from treacherous ice and snow. Despite critical shortages of manpower and equipment they know that Rock Salt can be depended upon to do a snow and ice removal job quickly, efficiently and economically.

Small wonder, then, that more and more states, counties and cities are turning to Sterling "Auger-Action" Rock Salt this year when roads and streets must be kept open to speed men and materials to the nation's war production plants.

Unless you are using Rock Salt for ice control on streets and highways within your area, take advantage of the offer below.

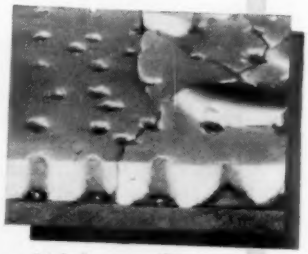
Ask for Free Consultation On Your Ice Control Problems

Highway Departments save from one-third to one-half by using Sterling Rock Salt for ice prevention. Cities — large and small — have cut snow removal budgets — kept public and private transportation moving in winter's heaviest storms with Rock Salt. Write today for bulletin containing all the facts on the most efficient and economical solution to your snow and ice removal problems. Free consultation with an International Field Engineer upon request. International Salt Company, Inc., Dept. AC-11, Scranton, Pa.

ROCK SALT STOPS CAKING

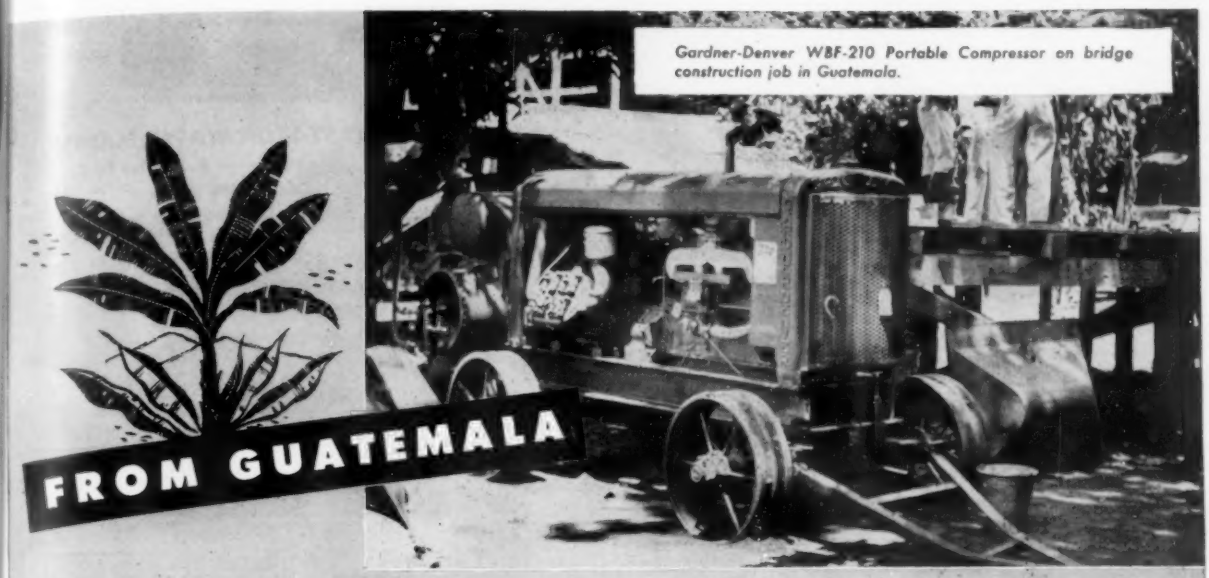
Applied early in a storm, Rock Salt prevents snow from packing and bonding to the pavement — makes complete removal fast and easy. Keeping pavements *completely* free of snow and ice means real safety.

"AUGER-ACTION" BORES IN



When ice has already formed, count on Sterling "Auger-Action" Rock Salt to bore right in and break it up. The model shows how the salt pellets bore right in, melt the ice and snow to form a brine which loosens the bond with the pavement. Removal by scraper is made easy.

STERLING *"Auger-Action"* ROCK SALT



Gardner-Denver WBF-210 Portable Compressor on bridge construction job in Guatemala.

"Water-Cooling" Does the Job!

Gardner-Denver WBK-500 Portable Compressor doing its bit on a road job on Attu Island.

MERCURY bubbling well over the hundred mark . . . heat like the breath of a blast furnace . . . yet this Gardner-Denver *all water-cooled, all-weather* Portable Compressor keeps breezing along . . . delivering cool, sustained air output, hour after hour.

Mercury hovering well below the zero mark . . . frigid blasts blowing straight out of the Arctic . . . but the *all water-cooled, all-weather* Gardner-Denver Portable Compressor warms up for a quick, safe, easy start. No danger of burned-out bearings or scored cylinder walls from cold-weather starts here!

WHY? Because the cylinders are completely water-jacketed...assuring a uniform operating temperature, regardless of weather or latitude.

Regardless of temperature or altitude extremes, Gardner-Denver Water-Cooled Portables operate efficiently and dependably. Water-cooling assures economical operation—cuts lubrication costs.

For complete information and specifications, write Gardner-Denver Company, Quincy, Ill.

Since 1859 GARDNER-DENVER

Sanitize Streets UP TO 42 FEET WIDE In One Trip!

ONE NOZZLE 16 FT.
TWO NOZZLES 28 FT.
THREE NOZZLES 42 FT.

Here, in one efficient machine, is the answer to both city sanitation and man power problems! Using all three nozzles on an Etnyre Sanitary Street Flusher, you can thoroughly cleanse streets up to 42 feet wide in ONE trip . . . irrespective of parked cars! Knife-edged, high-pressure streams of water send all waste into the gutter and on into the sewer . . . reduce bacterial count of street dust 65% . . . leave streets refreshingly cool and clean. And Etnyres can now be ordered for urgent civilian use—write, phone or wire today for complete details!

E. D. ETNYRE & CO., OREGON, ILLINOIS

Black-Topper BITUMINOUS DISTRIBUTORS • *Sanitary* STREET FLUSHERS

FREE BULLETIN NO. 306
on the "Machine of a Dozen Uses"
Shows how Etnyres are used for fire-fighting, sewer cleaning, surface sprinkling, pumping out basements, tree spraying, watering shrubbery, etc., in addition to street flushing. Complete specifications, mountings available. Write, wire or phone now.

ETNYRE
SANITARY STREET FLUSHERS

LEADITE

FOR JOINTING CAST-IRON WATER MAINS
Melted and Poured *No Large Bell-holes to Dig*
Saves at Least 75%

Leadite is shipped in powder form, packed in sacks of 100 lbs. net each
Leadite tested and used for over 40 years • Leadite joints improve with age

Be sure it is Leadite and accept no imitations

THE LEADITE COMPANY
Girard Trust Co. Bldg., Philadelphia 2, Pa.

No Caulking

GUNITE

NEW CONSTRUCTION—REPAIRS

- PRESTRESSED TANKS
- STEEL ENCASEMENTS
- RESERVOIR LINING
- DAM REPAIRS
- PEN STOCK LINING
- TUNNEL LINING
- SMOKE STACK LINING
- SEWER REPAIRS
- DISINTEGRATED CONCRETE ABUTMENTS RENEWED
- REPAIRS TO ALL TYPES OF MASONRY

Write for our Bulletins

PRESSURE CONCRETE CO.
Engineers & Gunite Contractors
1st Nat. Bank Bldg. FLORENCE, ALA.
6 Avenue B NEWARK 8, N. J.

HONOR ROLLS

A FITTING TRIBUTE TO THOSE IN SERVICE

Beautiful plaques, many designs, in sizes for any number of name plates. Send for prices and literature.

INTERNATIONAL BRONZE TABLET CO.
36 East 22nd Street — New York 10, N. Y.

CENTRIFUGAL PUMPS
FIRE HYDRANTS
A.W.A. GATE VALVES

Manistee single-stage, double-suction pumps, 75-20,000 g.p.m. capacity

Manistee multi-stage pumps, 50-3500 g.p.m. capacity with heads up to 1600 feet

Write for Bulletins

MANISTEE IRON WORKS CO.
MANISTEE MICHIGAN

Corrosion and tuberculation are the saboteurs to guard against in your water mains. Unchecked—these agents of time and wear can cause irreparable damage. So play safe and give those water supply lines a protective lining of thin, dense cement mortar. Applied in place speedily and economically the Centriline way, this sleek new lining will provide a non-corrosive non-tuberculating surface, shielding the underlying metal (whether steel or cast iron), assuring a permanently high coefficient and increased longevity.

Wherever your pipeline is situated, whatever its length—if its diameter is 30″ or more—our men can quickly reach and recondition it. Hurry . . . don't let the Gremlins get there first.

CENTRILINE PROCESS

CENTRILINE CORPORATION

140 CEDAR STREET • NEW YORK 6, N. Y.

The Centriline process is a rapid and economical method of reconditioning pipe lines. It consists of first cleaning the main and then applying, by centrifugal force, a dense cement mortar lining of required thickness, mechanically troweled to a smooth finish. This is done underground, in place.

Restores and Protects Pipe-Line Carrying Capacity

Urges Water Works Men to Be Ready to Meet Demand for Water

TO prepare water works operators for the problems that will confront them soon, Arthur E. Gorman, Director, Water Division, Office of War Utilities, War Production Board, urged operators in a recent address presented at the New England Water Works Association's annual meeting to no longer delay work essential for adequate maintenance or construction to meet the water demands of 1945. The problem of supplying water during the war has revealed weaknesses in many water systems and a policy to correct these deficiencies should be undertaken, according to Mr. Gorman.

STEP NO. 1. Check carrying capacities of all mains.
STEP NO. 2. Have all CLOGGED mains CLEANED by—

The **NATIONAL METHOD**
of Water Main Cleaning

THE NATIONAL WATER MAIN CLEANING COMPANY

115 Peterboro St., Boston 15, Mass.
Mortgage Guarantee Bldg., Atlanta 3, Ga.
205 W. Wacker Dr., Chicago 6, Ill.
3812 Castellar St., Omaha 5, Neb.
P. O. Box 683, Jacksonville, Fla.

Contractors for Cleaning of Water Mains

30 Church St., New York 7, N. Y.

7103 Dale Ave., St. Louis 17, Mo.
3707 Madison St., Kansas City 2, Mo.
2028 Union Ave., Montreal, Canada
576 Wall St., Winnipeg, Canada

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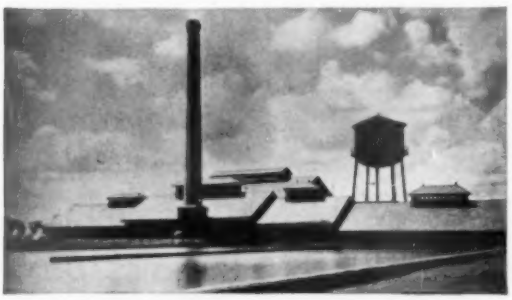

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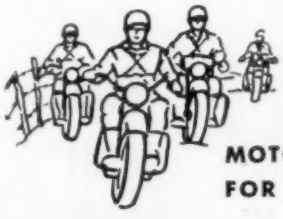

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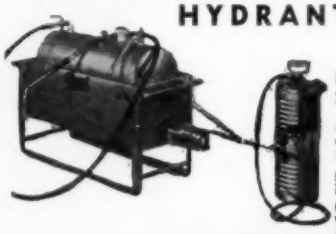

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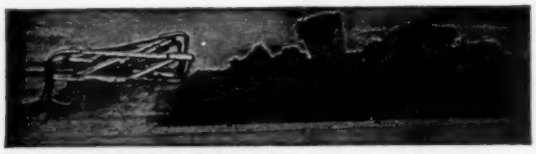

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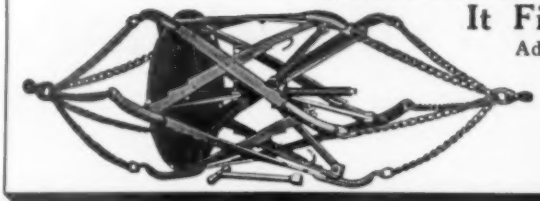

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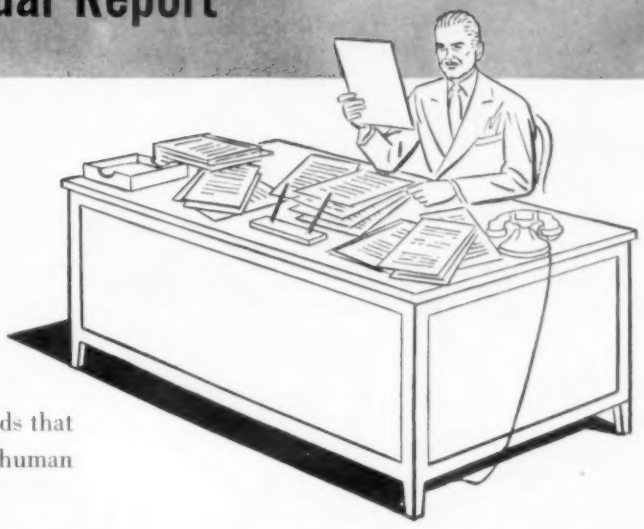

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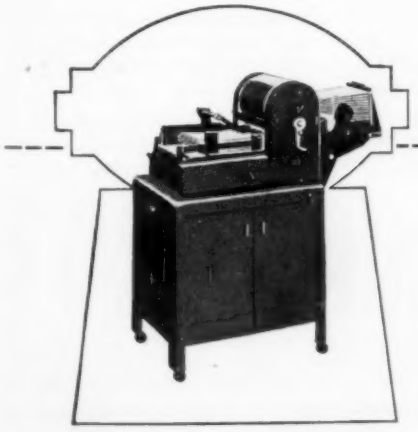

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Vol. LIX, No. 11 The American City November, 1944

Sewage treatment plant at Stamford, Conn., as it appears after being rebuilt to meet war-induced problems

Sewage and Refuse Handling Combined

By NORMAN W. WAGNER
Superintendent

STAMFORD, CONNECTICUT, *solved a troublesome sanitation problem by rebuilding its sewage treatment and incineration plants. These plants, combined into one operating unit, utilize the relatively new elutriation process to condition sludge. They also post-chlorinate the effluent and flash dry the sludge for disposal as a soil conditioner. Operation of the new plant indicates low running expenses.*

SANITATION problems, long troublesome in Stamford, Conn., were greatly aggravated by our entrance into the war. The city's industrial activity increased and likewise its population rose from 61,215 to an estimated 70,000, admittedly not a spectacular increase but nevertheless sufficient to cause a number of headaches.

One of the most obvious and odiferously persistent of these was the sewage treatment plant. The old plant consisted of a mechanical bar screen, one electrically driven 9,000-gpm sewage pump, and one diesel-driven pump, housed in a brick building; a chlorine feeder in an adjacent two-story building; and four Imhoff tanks, two open sludge-drying beds, and a badly worn outfall sewer.

Because of the city's growth and to a certain extent because of general obsolescence, the plant no longer had capacity to treat the sewage properly. Most of the sewage had to run through the plant quickly or by-pass the plant entirely, creating an unhealthy and objectionable condition in Stamford Harbor and Long Island Sound.

The second serious problem was that of refuse disposal. The incinerator, located at the same site, even when working 16 hours a day and 6 days a week, could not meet the increased load. Surplus garbage was piled about the plant until it reached odious depths of from 4 to 10 feet.

Thus, the sewage treatment plant found itself located in the midst of an unwholesome city dump. The city, instead of reducing its wastes to make them into a safe sanitary residue, was, of necessity, merely gathering them into a large, decaying, malodorous mass with its constant smoke nuisance from refuse fires. Also, the city, unable to treat adequately its sewage, was discharging it almost raw into the harbor.

Both these conditions were such a menace to public health that in 1941 the city officials, despite the difficulties of wartime construction, took steps toward the construction of a new combined sewage treatment plant and refuse incinerator on the site of the old plants. The first of these steps was to engage the firm of Solomon & Keis, consulting engineers, Troy, N. Y., to prepare plans and specifications. The second step was to obtain authorization from the War Production Board allowing the construction, and the third was to procure the assistance of the Federal Works Agency.

Study by the city's engineers disclosed the fact that although the old plant was overloaded and obsolete in many ways, some of it still could be salvaged for use with the new. The intercepting sewer, however, needed to be replaced and its diameter increased from 48 to 60 inches. But the pumping station, half the Imhoff tanks, and the utlity building could, after alterations, be utilized in the new construction.

Economies to be gained by the use of the waste heat from the destruction of refuse and gas generated by the digestion of sludge played an important part in the design. Because of this consideration and because of the obvious advantage gained by more efficient use of personnel, the design selected combined the garbage incinerator with the sewage treatment plant.

The new sewage treatment plant is designed to furnish primary treatment and post-chlorination of the effluent. If secondary treatment becomes necessary in the future, it can be supplied

easily with the present plant layout. Hydraulically it will handle a flow of 10 mgd with piping arrangement designed to meet peaks of 2½ times that.

This is the way that the new plant operates: sewage enters the plant through a new 60-inch segmental block intercepting sewer which discharges into an underground auxiliary collecting well constructed of tile-lined reinforced concrete 16.5 feet high, 14 feet wide, and 102 feet long. From this auxilary collecting well the flow passes through a rectangular chamber equipped with 60-inch sluice gates and flap valves which permit the sewage to be by-passed in case of emergency into the nearby Stamford Harbor or to proceed along its normal course.

From this point the sewage passes through a Chain Belt mechanically cleaned bar screen. The screenings are delivered to a collecting trough where they are emptied into a Rex triturator which shreds and returns them.

Next, a battery of five Yeoman nonclog centrifugal pumps picks up the sewage. These pumps vary in capacity from 1,750-gpm to 7,000-gpm and are automatically controlled by a float switch which automatically selects the pump or combination of pumps which will most economically handle the flow. The pumps are primed by Nash suction priming pumps. All the operations in the pumping building are controlled by a G. E. control panel.

The sewage is discharged into a 36-inch cast iron force main through a 36- by 18-inch Builder Providence venturi tube and goes to a 24-foot Dorr Detritor. In this unit the heavy inorganic material is collected, cleaned, and deposited in containers for disposal.

At the down stream end of the grit collector the sewage passes over a weir and into a chamber containing a chlorine diffuser for pre-chlorination. Piping arrangements allow the sewage to by-pass the grit chamber.

From the Detritor, piping, sluice gates, and manholes are so arranged that it is possible to feed either or both clarifiers or to by-pass the sewage into the harbor. The sewage flows through a center feed into two 90-foot diameter Dorr clarifiers which have a capacity of 477,000 gallons each. Based on an average daily flow of 10 mgd, these clarifiers have a retention period of 2.28 hours and remove 60 percent of the suspended solids. Mechanical raking arms continuously collect the sludge into a discharge hopper. Simultaneously, the grease and scum are removed automatically by a skimmer and emptied into a manhole. Two Carter duplex sludge pumps remove the contents of the scum manhole and sludge hoppers into the primary digesters.

The clarifier effluent then passes through a post-chlorination chamber which connects through sluice gates either to the harbor, to a post-chlorination chamber, or to the chlorine retention chamber as required.

Two Wallace and Tiernan chlorinators, each with a capacity of 1,500 pounds per day, administer both pre- and post-chlorination. An evaporator connected to the chlorinators allows high rates of feed whenever necessary and converters connected to the venturi tube automatically regulate the rate of chlorine dosage to the rate of the sewage flow.

In processing the sludge, the plant uses the Dorr multi-digestion system. There are three tanks, two are primary and one, secondary. Each has a diameter of 50 feet and a depth of 25 feet. These tanks are arranged in a triangular pattern to form the sidewalls of the operating room.

The primary digesters are equipped with heat exchangers which maintain a constant temperature of 96 degrees F. The supernatant overflows from the primary tanks into the secondary tank and periodically, digested sludge from the primary tanks is allowed to over-

CIRCLE: *Plant Electrician Ed. Troy, and Norman W. Wagner, resident engineer for Solomon & Keis, during the construction of the plant*

LEFT: *Four of the five Yeoman Centrifugal pumps which are automatically controlled by the control box beyond the left pump*

ABOVE: *The Dorr Detritor with the Clarifier beyond*

flow into the secondary tank. Overflow from the secondary tank is returned to the clarifiers.

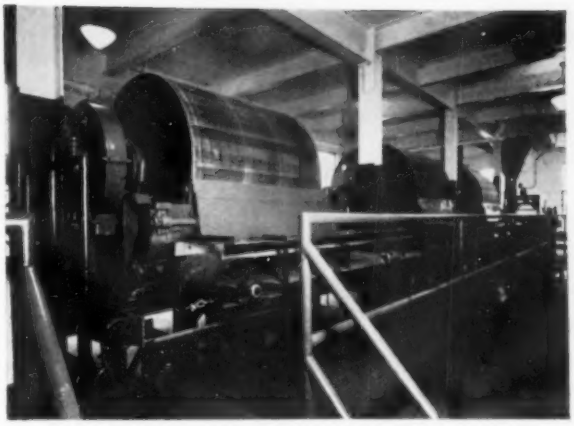
Gas generated during the digestion process is collected in the domes of the tanks and is piped to a gas-fired boiler in the main building. Excess gas is compressed and pumped into a 36-foot diameter steel gas sphere for storage. Any excess is burned in a waste gas burner. The digesters at the present time produce approximately 55,000 cubic feet of gas per day.

Safety devices, such as gas relief valves, flame arrestors, explosion-proof motors, switches and fixtures are liberally provided throughout the plant wherever gas hazard exists.

In elutriating the sludge, a refinement of the well-known "counter current" process is used. Thus, the design provides both a primary and secondary elutriation tank: clean wash water is used in the secondary and the same water is used again in the primary tank for washing the incoming sludge. Mixing chambers at the head of each tank insure intimate contact between the sludge and wash water which are mixed in proportions of four parts of water to one of sludge. For wash water, clarifier effluent is used.

At the present time there are 13 plants in the United States using this very worthwhile elutriation process. It was first introduced into sewage treatment practice by Mr. Albert Genter of Baltimore, Md. Its purpose is to wash the digested sludge with water or plant effluent to decrease the concentration of soluble ammoniacal compounds and thereby eliminate the necessity of adding lime to the sludge as a coagulant previous to vacuum filtration and considerably reducing the amount of ferric chloride required as a conditioner. A considerable savings is effected in the cost of chemicals which more than justifies the installation of the low cost mechanisms.

Vacuum filtration of the elutriated sludge is the next stage in the processing. This is accomplished by three 6-foot diameter 6-foot long (100 square feet) Eimco filters. The elutriated sludge is pumped from the elutriation tanks into the separate tanks for each filter where ferric chloride is added to further condition it for filtering. The filter cake forms on the filter drums as they revolve. The cake, now about 70 percent moisture, is discharged onto a belt conveyor and carried to the flash drying mechanism.



These Eimco vacuum filters dewater the elutriated sludge.

Flash drying consists first of mixing the filter cake with previously dried sludge in a pug-mill. From here it drops into the Raymond flash drier where the moisture it contained is reduced to about 10 percent by a blast of hot gas drawn from the adjoining garbage and refuse incinerator. Additional heat may be supplied to supplement the incinerator heat by burning either sewage gas or oil.

The sludge, now dry and powdery, is drawn into a separator. Gases are drawn off and returned to the combustion chamber of the incinerator to be burned and passed up a stack. Part of the dried sludge is returned to the pug-mill and the remainder is blown into a storage bin. From the storage bin it may be sacked for use as fertilizer or dropped onto a screw conveyor and carried to the furnaces.

The garbage and refuse incinerator is located in the same building as the vacuum filters and flash driers. It has a capacity of 225 tons in 24 hours and was built by the Incinerator Division of Pittsburgh-Des Moines Steel Co.

The garbage and refuse material handled by this part of the plant is first weighed and then unloaded into a receiving bin capable of storing approximately 600 cubic yards of material. Tin cans and other metal objects are collected separately and compressed into 35-pound packages.

These two double hearth Pittsburgh-Des Moines Incinerators are fed from the refuse bins in the room above.

An electrically operated three-ton crane with a 1½-cubic yard grab bucket lifts the material and desposits it into the charging hoppers located directly above the furnaces. When the drying hearths located just back of the burning grates are ready, the contents of the charging hoppers are dropped onto them. Here they are dried and stoked onto the burning grates. After the material is thoroughly burned the ash or residue drops into the ash hoppers below where they are quenched by a spray of water and are emptied into a truck by tripping a lever.

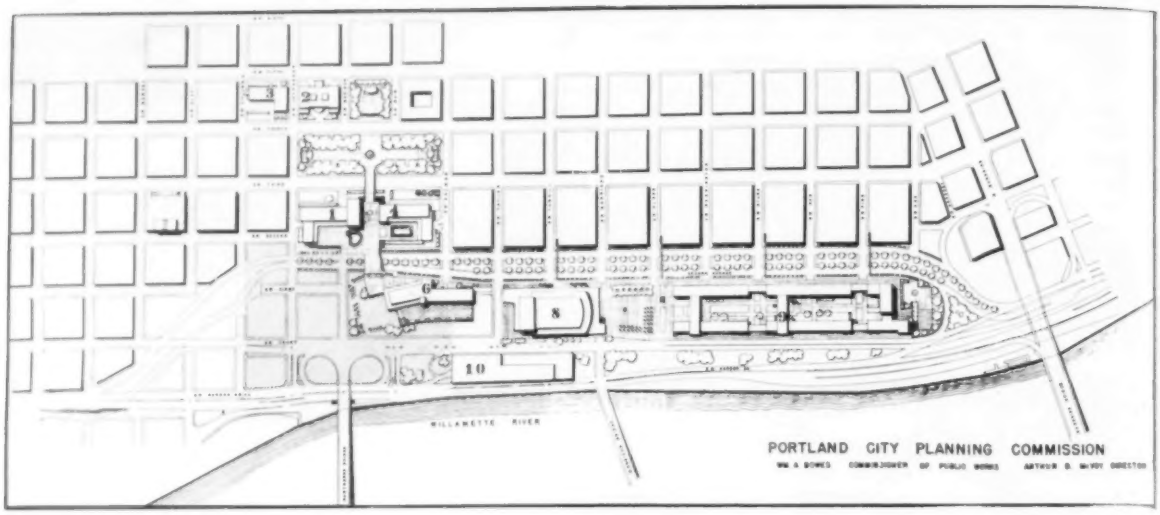
The gases, products of combustion, pass into a combustion chamber and finally up the stack.

A portion of these hot gases is diverted from the combustion chamber and drawn through a hot-water boiler located between the two combustion chambers. Here the boiler is connected in series to the gas boiler and they mutually assist each other in supplying the necessary heat for the plant.

The plant has been in operation for slightly over a year. So far, results have been very gratifying. During this first year of operation over 1,700 mg of sewage have been treated, with a final product of 125 tons of flash-dried sludge. With the same quantity of sewage next year there will be over 300 tons of dried sludge.

The cost of treating sewage has averaged $24 per mg, or $.70 per capita for a period of one year. Approximately 16,000 tons of garbage and refuse have been incinerated during the year at $1.85 per ton or $0.50 per capita.

One of the most interesting facts revealed by our cost data is that the new plant with over 100 different electrically driven motors as well as other electrical devices costs less to operate than the old plant which had only one 100-horse power electrically driven motor and several dozen lights.



The City Planning Commission of Portland recommends that the development of the Civic Center be carried out in three stages over a long period of years. The second stage of development, suggested by the Commission, is shown above. The third and final stage is illustrated and the numbers identified on the front cover of this issue.

Proposed Civic Center Along the Waterfront of Portland, Ore.

By ARTHUR D. McVOY
Director, City Planning Commission

THERE are times in the history of any city which demand bold and far-reaching solutions of its problems. From such daring answers to the challenge of past crises has sprung the recognized greatness of many of our present cities.

Portland today is in one of these periods. The Civic Center project which the City Planning Commission is proposing is, in our opinion, Portland's greatest opportunity to become a great city of the future.

In our study of a plan for the rehabilitation of downtown Portland, instead of one problem, that of providing an adequate plan for the Civic Center, we found that there were several interrelated problems. Among them were: the need for rehabilitation of certain areas in downtown Portland which had been going down very rapidly in property value and in appearance for years; the need to provide an easy access for major traffic arteries into the city center with a system of distributor streets; a very serious need for providing additional off-street parking; and the need of blocking growth of the commercial area in certain directions in order to concentrate and stabilize it.

We, therefore, approached the problem from the viewpoint of coordination of many different elements, using the need for a Civic Center as a lever or a starting point for providing solutions to these other problems in relationship to it. It is common knowledge that an appropriately designed handsome street will in itself encourage not only the retention of commercial establishments in the downtown area of the city, but will result in bringing commercial activities into the city from outside which would never otherwise have come.

Improvement of the Central Area

This project was not conceived for local improvement alone, or for only one side of the river, but was conceived as the improvement of the central area of the city where all the citizens do their downtown shopping and where all the citizens conduct their business with governmental agencies.

The Commission's studies determined both assessed values and estimated market values over a period of years from 1920 to date, for all the property in downtown Portland. These studies investigated not only the estimated market values of property to be dealt with today, but the history of market values in the past, especially 129 blocks of the entire central commercial area, including the healthy central core which we define as 38 blocks of the highest property values. The remainder of the property in downtown Portland, which has gone down very rapidly since 1930 and was even going down in 1920, was defined as a decaying fringe.

This study strongly suggested to the Planning Commission that the Civic Center should extend along the waterfront in order that advantage be taken of the maximum possibility of stabilizing property values and of providing a Harbor Drive, which can become a main artery for through traffic and an efficient means of getting to downtown Portland from various parts of the city.

The Commission and its staff went into a very detailed study of the needs for new buildings in Portland and concluded that among those needed were:

1. A new jail
2. A new city hall
3. A state office building
4. A coliseum or large sports arena type of auditorium
5. A new music hall
6. A horticultural center
7. A museum for history, science, and industry
8. A group of federal office buildings

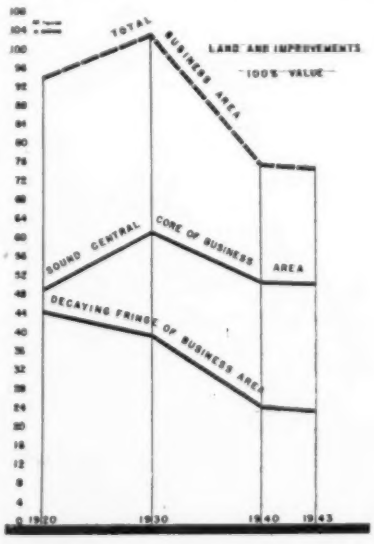
The city, county, and state buildings should be grouped together because of the large amount of business transactions between these governmental units. The museum and horticultural center would be appropriately related if they were located adjacent to each other.

Civic Center as a Stabilizer

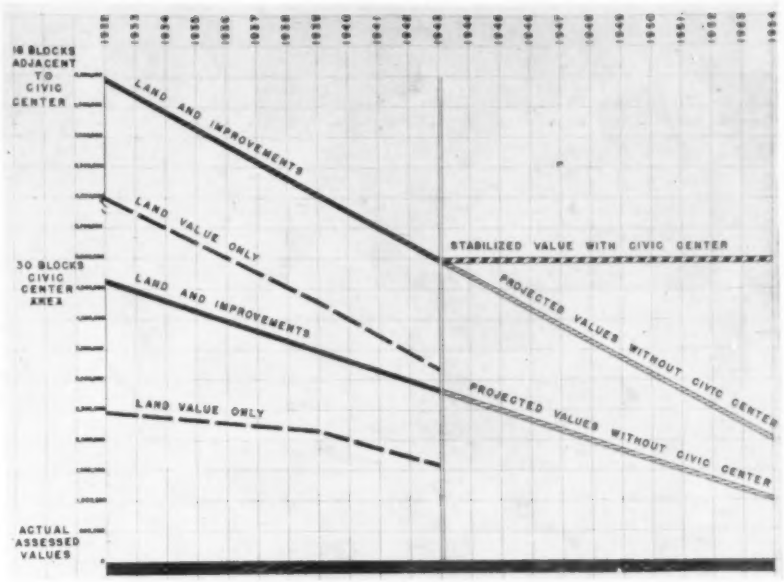
The Commission proposes that the Civic Center be developed on the blocks shown on the map entitled "Proposed Civic Development Along the Waterfront, 3rd Stage" [see front cover]. It is felt that a civic development in this area would be more of a stabilizer in property values than in any other area for the following reasons:

It would take out the most seriously and rapidly deteriorating area adjacent to the commercial area and create an attractive environment for the construction of new buildings and for the remodeling of old ones. It would help to provide a large amount of off-street parking in close proximity to the center of the commercial section. It would put parts of the Civic Center which need to be closely related to downtown Portland in proximity to it. It would assure the development of a feeder street system adjacent to the shopping district which would facilitate the movement of traffic and relieve considerable congestion within the highly built up area.

It was estimated that if property values were to go down at the same rate after the war as they were going down from 1930-1940, and if this waterfront area were not cleared out, it would only be necessary for the Civic Center to stabilize property values for a period of 8 years for the 18 blocks from Pine Street to Salmon, and from 2nd to 4th Avenues, to bring the tax revenue up to and slightly beyond what would be lost if the development were not built.



Comparative trends of property values in various sections of the business area of Portland


18 BLOCKS ADJACENT TO CIVIC CENTER
LAND AND IMPROVEMENTS
LAND VALUE ONLY
STABILIZED VALUE WITH CIVIC CENTER
30 BLOCKS CIVIC CENTER AREA
LAND AND IMPROVEMENTS
PROJECTED VALUES WITHOUT CIVIC CENTER
LAND VALUE ONLY
PROJECTED VALUES WITHOUT CIVIC CENTER
ACTUAL ASSESSED VALUES

Downward trend of property values since 1932 in the decaying business fringe of downtown Portland and the arresting and stabilizing benefits to this area anticipated from an adjoining Civic Center

Parking Lots and Under-Terrace Parking

As a solution to the problem of traffic and parking it is proposed that a new Second Avenue be constructed about 100 feet east of the existing Second Avenue and that this be made wide enough so that traffic can move with considerable facility and ease in getting into and out of the streets leading to the commercial buildings in the central commercial area. It was the Commission's recommendation that the land on which the present Second Avenue is built be then used temporarily for parking lots until such time as private builders desired to build on them. The city could then sell them back to private builders for their use, with the restriction that an equal amount of parking space would be provided somewhere in the new structure.

The new Second Avenue would be tied in by underpasses to the new Harbor Drive development, where necessary, making it very easy for traffic to get into and out of the central commercial area efficiently.

As a further aid to the solution of the parking problem in downtown Portland, the Commission proposes a development of the Civic Center with all of the buildings on terraces. Underneath the terraces at present ground level, it proposes to provide parking facilities. The total number of parking spaces which could be provided by this plan, with the addition of the proposed parking facilities on the east side of the new Second Avenue, would amount to somewhere between 4,000 and 4,500.

Southern Traffic Artery

The Commission arrived at a plan for a traffic artery bounding the southern extremity of the commercial section and recommended that it be developed as a depressed way to meet increased traffic which would result from the construction of proposed Wolf Creek Highway and a new Hawthorne Bridge. This artery was placed at Clay Street to facilitate traffic flow from the new Hawthorne Bridge when built, and because property values are much cheaper to obtain than farther north and it would therefore became a natural southern barrier for commercial development. This improvement would encourage the erection of apartment houses and multiple housing to the south of the new parkway protected from commercial encroachment, but convenient to downtown Portland. The new parkway would take the place, at a much cheaper cost, of the proposed Jefferson Street tunnel and would replace a proposed and expensive diagonal planned for a loca-

(Concluded on page 107)

Roads, Roundabouts and River Banks

By SIR NEVILLE PEARSON

Some Distinctive Features of the New Royal Academy Plan for London

THE new Royal Academy Plan is an endeavor, and a very successful one, by its members to show they can live on earth as well as among the stars. This time they have been essentially practical. They have, in fact, produced a constructive criticism of the London County Council Plan.* This new plan has three outstanding features: It does away with the two great tunnels of the L.C.C. Plan on the grounds that they are expensive, unattractive to road users, and create traffic bottlenecks at their entrances. Instead of them, London's cross traffic would use a sunken ring road carrying high-speed traffic. Secondly, it has devised a new principle of main crossings or roundabouts, utilizing three levels instead of the two to which most planners have hitherto limited themselves. Thirdly, it disagrees with the L.C.C. Plan for a continuous green belt along the south sides of the Thames from the County Hall to the Tower. Let us deal with these three points one at a time.

Sunken Ring Road

First the sunken ring road. The essence of this road is speed and safety. Speed will be achieved by imposing a minimum of 30 m.p.h. What a sensation it will be the first time a motorist is fined for not going fast enough! Safety will be ensured by the elimination of crossings and pedestrians. I do not mean by this that the elimination of the pedestrian will be done gradually, as a sport or hobby for exuberant motorists. I myself am an ardent consumer of shoe leather. So I hope that none of those who, with me, enjoy using their legs for that purpose for which they were originally intended, will feel that so far as pedestrians are concerned there exists in my mind any confusion between the terms elimination and liquidation. What I do mean is that pedestrians will definitely be prohibited from setting foot upon this sacrosanct highway, dedicated as it is without reserve to the Great God Speed.

Traffic entering or leaving it will do so by ramps leading in the direction of the traffic movement. There will be no foot pavements and no traffic lights. Pedestrians will cross the road by bridges at "pedestrian level." The course of this sunken road would be roughly an oval, with its east and west axis about 5 miles long, and its north and south axis about 3 miles. It would enclose practically all the busiest parts of London, yet no two places on it would be more than 12 minutes apart, at the minimum permissable speed of 30 m.p.h. Tunnelling would occasionally be necessary for reasons of ground levels, or to get under the Thames, but for most of its length the road would be a thing of beauty as well as of utility, its grassy banks studded with trees or flowering shrubs.

Three-Level "Roundabout"

The second new principle is the three-level crossing, or traffic roundabout. Hitherto, main crossings, circuses, or roundabouts have been looked upon as dangerous congested areas from which traffic, whether wheeled or pedestrian, should be distributed as expeditiously as possible. This basic idea has been changed in the new plan. Its authors have gone back to the fundamental conception that since earliest times mankind has delighted in the market place; that was where the main routes met; there was the place where men liked to transact their business and talk with their friends. In the days of horsedrawn vehicles and comparatively small populations, that was a practical proposition. It was the advent of the motor car that changed all that. And if we are to return to the real pleasures of the market place, this wild beast has got to be segregated, and that, in fact, is what the Royal Academy planners have done. By introducing a third level into the circus or market place, the pedestrian

* See THE AMERICAN CITY for September 1943 (pages 68-69) and May 1944 (pages 53-55).

PHOTOGRAPHS BY SYDNEY W. NEWBERY

COURTESY BRITISH INFORMATION SERVICES

A proposal for a sunken garden at Piccadilly Circus included in the new Royal Academy Plan for London

Connection between the Ring Road and a typical roundabout. The upper traffic deck forming the roundabout is raised 11 feet above ground level and is approached by ramps from the Ring Road. Pedestrians use the intermediate ground level.

may enjoy at leisure, and in perfect safety, the itinerant joys of the market, such as were found in Samarkand, in Athens, or in ancient Rome.

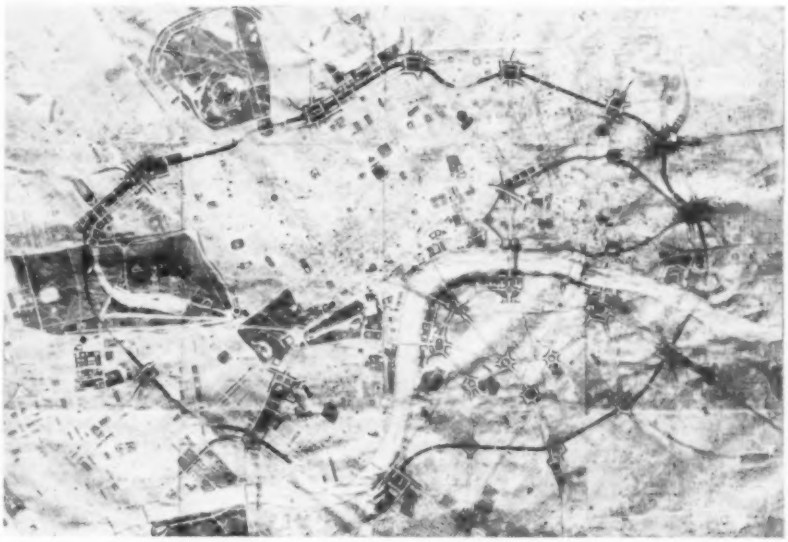
Shopping Center Layout

The normal layout for a circus or shopping center on the sunken ring would be somewhat as follows. A ramp would lead the traffic up from the ring road to the system of local roads, on which the local traffic would circulate more slowly. Between these two levels there would be another for pedestrians only, at the level of the present pavements. Pleasant gardens, with trees and shrubs and flowers and room in which to enjoy life, surrounded by an arcade with shops and cafes, would be found here. This arrangement would in effect give large buildings two good frontage, one at street level and one at pedestrian level.

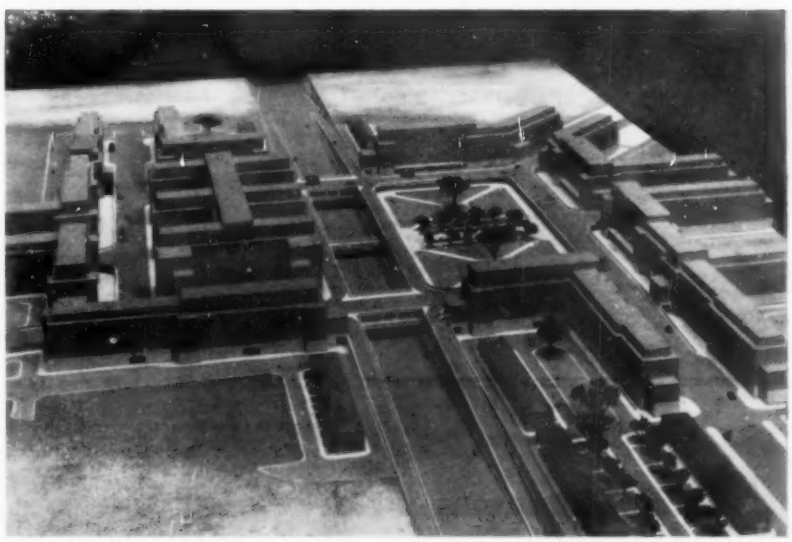
Covered foot ways from the gardens would be carried on the underside of the local road bridges wherever they had to cross the sunken ring road. Easy slopes would carry the traffic above the heads of pedestrians, who, if they wanted to take a bus, would do so at one of the stops provided at street level. Covered ways would lead out to car parks in the vicinity of the shopping centers, for those who had their own cars.

The Banks of the Thames

Lastly come the new proposals for the south bank of the Thames. In the County Council Plan there was to be a continuous green belt from the County Hall at Westminster all along the south bank as far as Tower Bridge. The Academy planners take the view



Plan of sunken Ring Road connecting railway terminals and radial roads



Model showing the relationship of Ring Road to a business and shopping area

that this green belt would be unneeded and indeed out of place in purely commercial reaches of the Thames. Further, they consider that properly designed warehouse buildings and wharves could be given a functional beauty which would be more in keeping with the traditional activities of the City, and so they propose that the green belt should end at Blackfriars, which is really the western boundary of the commercial part of the Thames, and that from there on the banks of the river should be devoted to commerce and to commercial buildings, with only occasional breaks into greenery, as for instance an open space to show off the beauties of Southwark Cathedral, standing guard over the southern approach of London Bridge.

These suggested amendments, modifications, and additions to the London County Council Plan should bring us fairly near to the probable shape of London in the post-war world. Their dynamic nature shows the great benefits we still derive from our traditional though unofficial bodies, such as the Royal Academy, which have always played an important part in the growth and progress of our nation.

Covent Garden, Drury Lane Theatre and proposed new Opera House in center. Drawn by Sir Edwin Lutyens.

Untaxing Improvements

*Successful Experience of British Columbia's Third Ranking City**

By W. M. MOTT
Mayor, New Westminster, B. C.

A THIRD of a century ago—on May 22, 1911—the following resolution was passed by the City Council of New Westminster:

"*Whereas* the ratepayers of the City of New Westminster have signified their desire to have improvements exempt from taxation;

"*And whereas* this Council deems it in the best interests of the City and a just system of taxation;

"*Be it resolved* that a By-law be prepared fixing the tax rate on Real Estate at 30 mills subject to a discount of 5 mills if paid on or before the 1st day of August, 1911, and that all improvements, save and except those improvements which may be on or in the streets and upon leased property upon which no land tax is being paid to the City, be exempt from taxation for the year 1911."

Today the Royal City of New Westminster is still operating under the Single Tax System. Since 1911 to the present year, 1944:

Assessed value of land increased	70%
Assessed value of improvements increased	357%
Tax rate increased	134%
Population increased	80%

The above figures clearly show the steady growth of New Westminster.

Today we have 84 manufacturing plants established in our city, with a capital investment of $20,000,000. They produce a gross annual value of products amounting to $39,000,000 and provide gainful employment for 8,500 people.

Eighty-six percent of our householders own their own property, which we believe is the highest percentage in Canada. Land speculation has entirely disappeared since the adoption of Single Tax. Today, the supply of non-productive or vacant property is rapidly diminishing; also a negligible amount is reverting to the city for non-payment of taxes.

Improvements Encouraged

Our citizens have no hesitation about improving their property, knowing this will not increase their annual taxes. This is evident to anyone paying a visit to New Westminster. In every part can be found lovely homes surrounded by charming gardens where a profusion of flowers that can only be found in a contented city can be seen.

The manufacturers and business men are in an enviable position, since they can and do make improvements to their plants without the fear of increased taxation, a deterrent to all businesses desiring to expand. Further, from a competitive standpoint, our manufacturers are favored over those who must pay taxes on improvements.

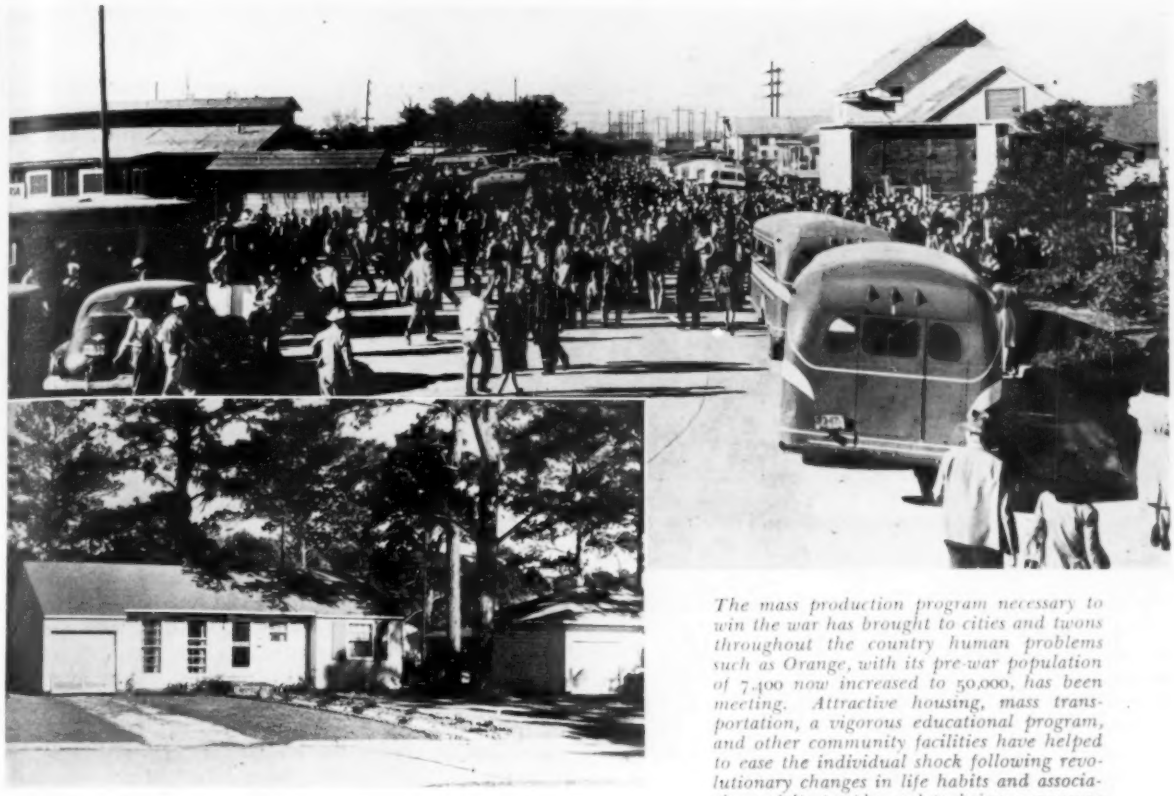
In addition, our Council is authorized to submit a by-law to the ratepayer and upon obtaining a three-fifths affirmative majority, to grant the affected industry a fixed assessment on land for a period not exceeding ten years, in addition to the regular exemption of improvements. This illustrates our willingness to encourage bona fide prospective industries.

The financial condition of New Westminster compares quite favorably with any city in North America for low per capita tax figures. We also have one of the highest percentages of tax collections.

We feel very confident that the abolition of taxes on the products of labor has been of material assistance in building up our city to the position she holds today—the third ranking city in British Columbia. *Buildings may come and buildings may go, but land is with us forever.*

* EDITORIAL NOTE: In our issue for March, 1935 (page 44) THE AMERICAN CITY published an enthusiastic comment from the then Mayor of New Westminster, F. J. Hume, regarding the experience of that British Columbia city with the untaxing of real estate improvements.

New Westminster's present Mayor, W. M. Mott, has now brought the story up-to-date for the benefit of THE AMERICAN CITY's readers.



The mass production program necessary to win the war has brought to cities and towns throughout the country human problems such as Orange, with its pre-war population of 7,400 now increased to 50,000, has been meeting. Attractive housing, mass transportation, a vigorous educational program, and other community facilities have helped to ease the individual shock following revolutionary changes in life habits and associations of its people, and to bring a measure of stability to the war community. ABOVE: *Change of shift in the shipbuilding yards.* LEFT: *Federal war housing for war workers*

Orange, Texas— War-Impact Town

By HARRY HEWES

ONE day some citizen of Orange, as far in Southeast Texas as one can get, may take a brush and a bucket of paint to the bridge over the Gray Bayou and fix that sign that bids visitors welcome as they approach on Route U. S. 90. It creates an impression lamentably out-of-line with the facts.

The board must have been nailed to the bridge which marks Orange's western city limits in 1940, and it concludes its welcoming legend with "Pop. 7372." This was all right just after the count was finished for the sixteenth decennial census, but today this figure contains an under-statement no self-respecting civic booster could countenance if he hadn't been so busy in Orange's industrial effort to win the war.

The revised legend could read "Pop. 50,000," and mark a growth that would hearten the hardiest mushroom boomer even in these years of unprecedented in-migrant movements into war-impacted industrial centers, and which have witnessed recurrent miracles of production. It also has noted miracles in adjustment of conditions for living when services and utilities broke down under the sheer weight of people.

Orange is no new town. It is, in fact, the oldest corporate community in this part of Texas, and it has known other days of lush prosperity when the waters of the slow-moving Sabine floated down the logs from the now denuded long-leaf yellow pine forests, when there was a brisk trade in cypress timber, and when the mills were singing on long daylight shifts.

They tell you that fifteen millionaires resided on one street in Orange, and the costly old mansions, magnificently urbane for their place and their day, give evidence that this may have been true. But Orange has known thin days too—distressingly low bottom periods—and the depression's relief rolls for the community were large as recently as five years ago.

An official of the Chamber of Commerce described the town as "sleepy" before the war impact hit. The fine channel, now dredged to 32 feet to the Gulf of Mexico, saw little commerce in the years preceding 1940, and such shipbuilding as there was consisted mostly of wooden boats and barges. The monthly industrial payroll on November 1, 1940, totaled about $225,000, and it is admitted this estimate might have been upped a bit. On November 1, 1943, the monthly industrial payrolls in Orange aggregated $6,000,000, an increase of $1,083,390 over the corresponding payrolls for 1942.

Orange was drowsing away in its yellow sun fairly contented with its own pleasant pattern for living when on September 9, 1940, the Navy awarded a contract to the Consolidated Steel Corporation Ltd., for the construction of a shipyard on the Sabine and twelve 2,100-ton destroyers. Last May this Orange shipyard, its plant standing largely on "made-ground"

Small shops and stores along its main streets met all the needs of pre-war Orange

dredged from the river marshes and filler, launched a combat boat every day including Sundays. It has employed a peak of about 21,000 workers, men and women, and anticipated an increase in its working force in October.

The Levingston Shipbuilding Company was already making tugs and barges in Orange, and employed about 50 men. Its force has multiplied 40 times. The Weaver Shipbuilding Company, also, has grown way outside its former plant. There were also the creosote works, a plant for fabricating cast iron, a pulp and paper mill, and some small handcraft industries.

The war industrial impact hit with sudden violence.

Public Works Help War Industries

There had been long lean years in the rural areas of East Texas and among the Cajin people across the Sabine in Louisiana from which the new workers were recruited principally. The promise of hard money war wages sped with the swiftest wings the employers could devise and the workers with their families began to pour in on Orange. The city, struggling for adjustment of problems without precedent or formulae, saw some pretty grim days. It needed help and money and guidance; imperatively it needed houses, sanitary facilities, access streets, storm sewers, fire protection, a recreation program, and it took its case to Washington. It had to have schools.

To the Federal Works Agency, charged with the responsibility of allotting the Lanham Act funds provided by Act of Congress for community services, it was clear that Orange's demands were war-induced, and without some of the assistance asked for, assistance to be rendered speedily, the war effort would be impeded.

The first workers went on construction jobs. They lived in trailers, in boats, in venerable automobiles, in lean-tos thrust up in anybody's yard and covered with "tarps," in tents. Most everybody took roomers. Before the job of shipbuilding could get started the shipyards had to be built, 60 acres of ground solid enough to support mighty cranes and supplies. Dredges and bulldozers dominated the scene.

Trailer camps got Federal assistance. The Navy built 500 housing units for its personnel at the Naval Receiving Station down the river from the shipyards. Four hundred trailer units and 200 demountable homes appeared in the Pine Grove "addition" on the outskirts of the town.

For generations Orange folk had observed the amenities of traditional Southern living. Even among the colored folks there were caste lines. Suddenly this venerable community was confronted with the vast army of newcomers—of war workers on its doorstep, and it met the situation with intelligence. The newcomers were bewildered, and often less hospitably inclined. They were not particularly clannish, but they were compelled to meet the conditions of a new environment; a crowded, hustling, jammed-up new way of industrialized urban life.

Much of the credit for resolving the problems goes to J. W. Edgar, the young Superintendent of Schools in Orange. He took his applications for FWA funds for schools to Washington and he made an eloquent case of it.

"The schools," he said, "must take care of the new children, all of them, but they must extend a friendly hand to their parents also. The program must cover all of this industrially congested community."

Mr. Edgar has gathered about him

The educational program has been vigorously developed and serves not only the children but the whole industrial community.

an able, intelligent and energetic staff. He asked the Federal government for more than $1,000,000 for school building purposes, and he got most of it. The new senior high school not only serves the children in the community but it has introduced innovations that touch in one way or another almost all of the newcomers.

Then as the work pace grew faster, first after Pearl Harbor, and then into feverish tempi with the appearance of Nazi U-Boats in the Carribean and the Gulf, and the manpower demands became sharper, Mr. Edgar again appealed to FWA for funds for a war nursery so that the mothers of pre-school children could be released for war-connected jobs. The first of the Lanham Act war nurseries in the United States was started in Orange, Texas.

And there is the other problem of the parents. Somebody introduced the word "tool' to describe them, and it has stuck.

"We aren't welcome here. Nobody wants us. We're just tools you use to work with," they say.

It is with these transplanted people that Mr. Edgar and his staff work continuously. Friendly understanding, intelligently placed sympathy, a program of social recreation, all have been useful in building community morale, although a directed program of recreation has been sadly needed. This is now to be taken care of, the Federal Works Agency contributing some $20,000 for personnel and equipment to match funds provided by the city and the employers. It should be working well in another month.

All told, the Federal government has built or contributed to construction or maintenance of school facilities now serving 8,945 pupils in Orange, and in August the President informed Major General Philip B. Fleming, the Federal Works Administrator, that more than $200,000 should be made available for erection of 13 prefabricated school units. Estimated pupil enrollment for January 1945 has been placed at 10,000. In 1940 the Orange schools had classroom facilities for about 2,000 children. Its school system has been notably good for years.

In addition to allotments for educational facilities, the Federal Works Agency made grants of $234,405 for a new 60-bed hospital, built a health center and fire station, provided approximately $190,000 for a sewage disposal plant, $71,000 for streets, and $67,228 for storm sewers. Other Federal agencies built approximately 7,000 dwelling units.

One of two super-markets built to meet varied needs of the war population

After the War—What?

And after the war how much of this will have residual value? The question is often asked and the replies agree that Orange has found itself. Much of the permanent housing will remain, and the hundred acres of made land for the largest housing project may be used for factory sites. The land was "made" from a swamp so oozey that a stone dropped into it would immediately disappear. This "made" land has been drained, laid out in streets, paved, sodded and provided with sewers and water. This will be a post-war asset.

Mayor Homer Stephenson believes Orange may expect a post-war population of about 25,000; former Mayor Abe Sokolski, a resident of Orange for half-a-century, believes the population will settle down somewhere between 20,000 and 25,000, "and we are equipped for a city of that size," he says. W. A. McNeil, Secretary of the Chamber of Commerce, looks for a permanent town of about 15,000.

Orange is at the easternmost apex of a triangle including two other Gulf ports, Port Arthur on the Sabine, and Beaumont on the Neches River. Tonnage from these three cities passing over the Sabine Bar today exceeds that of any port except New York.

Captain H. B. Hird, USN Ret., formerly in charge of naval installations at Pearl Harbor, and now head of the Consolidated yards in Orange, says, "If these three cities can get together, this Sabine area will become one of the most important in the United States."

Monthly Pay Plan for City Taxes

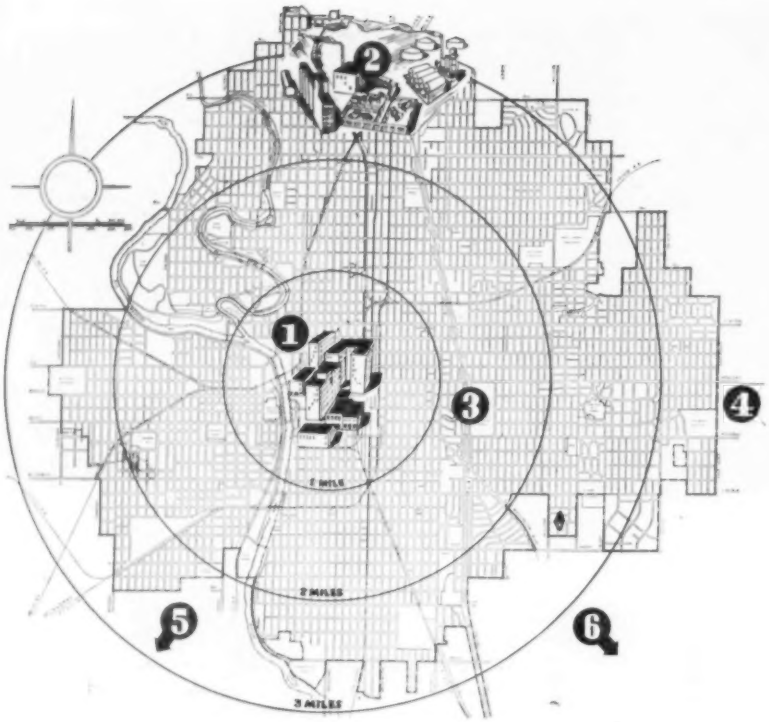
STOCKTON'S monthly payment plan for collection of property taxes is an example of a practice by municipalities allowing citizens to pay their city taxes in installments, the Municipal Finance Officers Association reports.

Starting 10 years ago, this California city has used the system to reduce property delinquency from 14 to 1 percent, to provide a stable flow of revenue and to reduce requirements in the city auditor's office.

The practice of allowing citizens to pay taxes on the installment plan really got under way after the last war when 43 cities permitted property tax payments in two or four installments. By 1933, 112 cities allowed payment in two installments, six cities in three and nine municipalities in four payments.

By 1939 as a result of depression years, a trend sprang up toward the collection of taxes by cities in as many as 12 installments. In 1943 at least 155 cities allowed collection in two installments, seven in three payments, 59 in four installments, two cities in five, eight in 10 payments and five cities in 12.

The following five cities are on the 12-payment plan: Pittsburgh, Waco, Tex., Kalamazoo, Mich., Charlotte, N. C., and Laredo, Tex. Racine, Wis., is on the seven payment plan and San Antonio, Tex., and Jackson, Mich., on the five payment plan. All New Jersey municipalities collect on a quarterly basis.



WICHITA'S AIRPARK PLAN

Each number on the plan indicates the approximate location of an airport. These proposed landing fields within the city will, when completed, provide landing places for the private airplane, and serve business, industrial, and residential districts.

Airparks to Suit the Flyer

Wichita, Kan., designs for the Air Age

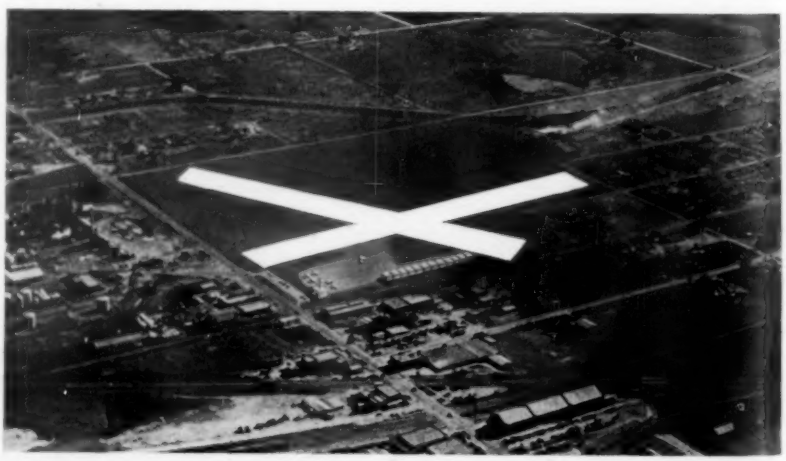
By ANDY S. SWENSON
Chairman, Aviation Committee
Chamber of Commerce, Wichita

FOUR in-town Airparks — three within the city limits and one within the downtown shopping district—are projected for Wichita as part of a comprehensive airport program submitted to city officials for their consideration by the Wichita Chamber of Commerce.

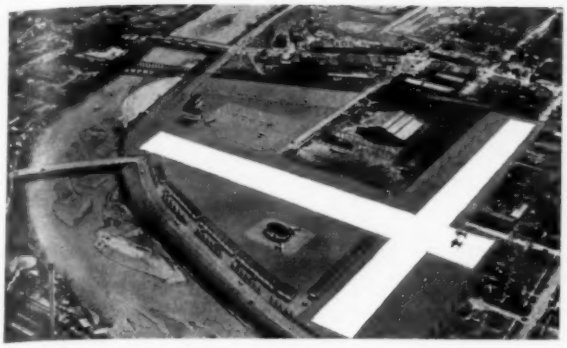
The Wichita Plan was developed by the Chamber's Aviation Committee in cooperation with local airplane manufacturers. A standout feature is a proposed system of compact landing fields —airparks—built in the city for the use of private airplanes. These would serve business, industrial, and residential areas. To illustrate, somewhere in downtown Wichita (1 on map) there would be an airpark within easy walking distance of the shopping district and business offices. Another airpark (2 on map) would be located somewhere in the north industrial district adjacent to Wichita's stockyards, grain elevators, oil refineries, packing houses, and other plants.

The plan includes the present Wichita Municipal Airport (6 on map), for many years considered among the nation's finest commercial fields. It is located southeast of the city, a 20-minute drive from the business district.

No. 5 is an additional municipal field located some distance southwest of the city. It would relieve the Municipal field of miscellaneous activities which hinder commercial traffic. Practice flights and student instruction would be centered here. It would also



Airpark in Wichita's industrial district (No. 2 on plan)



Airpark near business area (No. 1 on plan)

One of two proposed residential airparks (No. 3 on plan)

serve as a field for fixed base operators and airplane dealers, with areas allocated for repair and maintenance facilities for non-commercial airplanes.

General outlines of this "Wichita Plan" showing the possibilities for small landing areas within and near the city, have been submitted by the Aviation Committee to city officials under whose guidance the plan would be developed if approved by the public. In formulating this layout of airports and airparks, not only were the needs of a greatly expanded commercial air transportation era anticipated, but also the requirements of non-scheduled air traffic and the private flyer.

Airparks such as these proposed in the plan for the downtown business district and the industrial areas would be an important factor in the post-war commercial and industrial development of Wichita by providing an incentive and convenience for the private plane owners to visit Wichita for business purposes. In addition, the proposed plan would provide for the more casual visitor to Wichita and also for the Wichita private plane-owner, through the establishment of airparks in or near residential areas (3 and 4 on map).

The Wichita plan emphasizes the development of facilities for the private airplane, because it is to the private airplane that we must look for the development of aviation to a major peacetime industry. Private airplanes before the war constituted more than 85 percent of total aircraft, and may be expected to increase that percentage in the post-war period.

The post-war personal airplane will cover five or six hundred miles in a half day, with economy, quietness and comforts. With slower landing speeds, spin-proof features, and lower first costs, the post-war personal airplane can be expected to have a tremendous potential as a medium of mass transportation. But even though the manufacturers include all these features, to achieve the greatest utility value, the personal airplane must have some place to go. That is, landing facilities must exist at the places the air traveler wants to visit.

The airparks outlined for Wichita appear to indicate the type of facility needed throughout the country in both large and small cities to give the airplane the maximum utility as transportation. Cost of a system of airparks, as proposed, would be negligible in comparison to most municipal aviation projects. Aviation-minded Wichitans, including those connected with Wichita's airplane plants—who have definite plans for building planes after the war—envision the Wichita Plan as a pacemaker in the nation's aviation development. They see Wichita's aggressive step toward "bringing the airplane to town" as a leadoff move which it is hoped will encourage such low cost and convenient landing facilities in hundreds of other cities, large and small, throughout America.

Public Housing and Juvenile Delinquency

As far as can be ascertained, the report, "Juvenile Delinquency in Public Housing" published by the Bureau of Social Research of the Federation of Social Agencies of Pittsburgh,* is the first such detailed analysis of juvenile delinquency statistics as they relate to residents of public housing communities.

Generally, the report shows a lower delinquency rate in the housing communities than in the low economic areas of the city, but a higher rate than in the city as a whole. However, juvenile delinquency statistics cannot be accepted as a measure of juvenile anti-social behavior; they are a measure only of such anti-social activity as is formally brought to the attention of the duly constituted public authorities. Every one of the public housing communities has at least one professional social group worker assigned to it; many of the managers have had professional social work training. The point of view of such people about the juvenile court is different than the common lay attitude. They see the court as a community resource available to assist in the adjustment of problem children, not as a means of punishment for misconduct. In such a situation it is obvious that a much greater proportion of juvenile misconduct will be brought to the attention of the court, not for punishment but for treatment. Higher delinquency rates might, therefore, normally be expected in well managed housing communities for at least the earlier years of their occupancy.

Most of the Pittsburgh projects were opened in 1941 and 1942. It was therefore only possible to compare rates for 1942 and 1943, and this only for some of the communities. An increase in the rate took place; approximately to the same degree as in the city as a whole. The social problems arising out of the war, which have resulted in a general increase in juvenile delinquency throughout the country, obviously are not solved merely by the provision of better housing. The boys and girls living in the projects have been subjected to the same strains and have reacted in the same way as their brothers and sisters living in good or bad housing everywhere.

Public housing has not been in operation long enough in Pittsburgh to attempt to determine the trend of delinquency there or to evaluate the effect of the changed social and physical environment which it provides.

AUBREY MALLACH

* Pittsburgh Housing Reports No. 2, Juvenile Delinquency in Public Housing, September 1944. Bureau of Social Research, Federation of Social Agencies, Pittsburgh, Pa.—Price 15 cents.

Schenectady, N. Y., Meets Water Supply Crisis

By JOHN H. BURWELL
Water Works Engineer

AFTER PLANS for increasing Schenectady's water supply had been completed in 1940, almost overnight industrial activity connected with Government lend-lease aid to our warring allies became so great that plans had to be revised upward to supply an ever increasing water demand. Plans were expanded—Lanham Act funds became available—contracts were let—work started full speed ahead. But by the end of December 1943 the water supply problem mounted to critical proportions. The reservoir's supply was dropping steadily. Urgent appeals were made to hold water uses to a minimum. It seemed that another month would be needed to complete the new system. Every day thereafter the water supply diminished 1 mgd until the reservoir showed a mere 3 mg. Just at this critical point the new supply went into service.

Here is the story:

IN 1895 Schenectady's water supply consisted of one 18- x 60- x 43-foot well which supplied 4½ mgd. This system was increased in 1903 by two 47-foot circular wells, 44 and 40 feet deep respectively, and in 1911 the three wells were interconnected by a 20-foot siphon. The oldest well and the 44-foot well were connected to the station suction header by a 42-foot suction pipe.

In this system the three wells were equipped with 3 Worthington pumps, two had 1,050-hp and one 1,325-hp motors, and together they produced sufficient power to pump a maximum of 42 mgd under a normal suction lift of 16 feet. Three mains carried the water, one 24-inch main served the business district and two 36-inch mains supplied Bellevue, Mount Pleasant, and a 20-mg reinforced concrete reservoir.

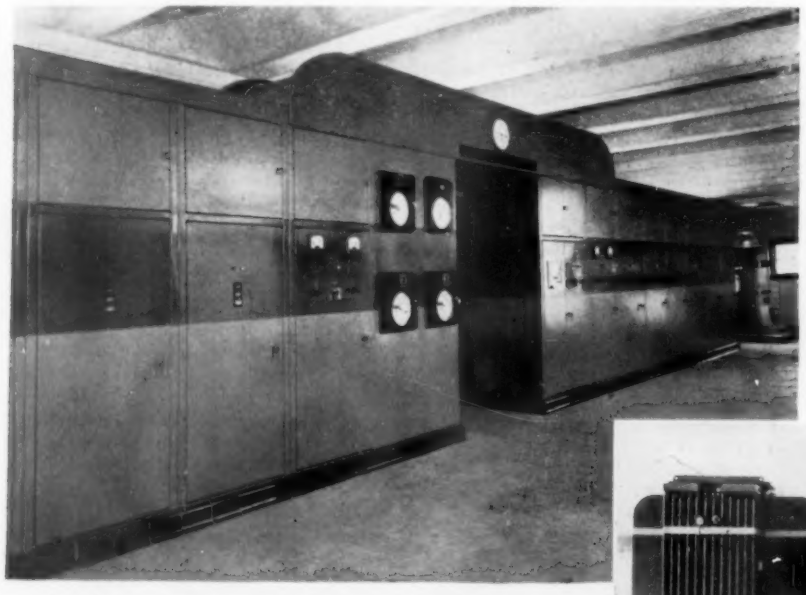
Up to the winter of 1931 the supply from these three wells proved adequate to meet the demand but at that time there occurred a shortage of water, and again in 1936 a more critical period arose. By 1940 the need for a more adequate supply became apparent and the city council passed an ordinance in February of that year authorizing the City Engineer and Water Department to prepare plans and specifications and to estimate the cost of providing a more adequate water supply.

Accordingly, all engineering and geological data was collected. It was found from a geological survey conducted in 1928 by a Dr. Stoller that there was present a subsurface sand gravel stratum with an average depth of 66 feet, beneath an area 15.2 square miles extending from Hoffman's to Rexford. This natural reservoir has an approximate capacity of 63,000 mg of water.

Nine New Wells

Rainfall in the Schenectady catchment area, a total of 35.5 square miles, is about 38 inches yearly. Allowing for run-off, evaporation, and transportation, the underlying sand and gravel stratum in this area would be replenished at a yearly rate of approximately 8,500 mg. With this information, it was felt advisable to further tap this underground supply. Preparations were made to sink 9 new wells at a site 1,500 feet south of the old wells where it was known from tests that the underlying hardpan was deeper.

In the midst of planning for a more adequate water supply we had to stop and engage a drilling company to dig an emergency well at the new site. This well was completed on March 25, 1940, and a 12-inch connection made from it to the 24-inch main which served the business district. With this added supply conditions improved sufficiently so that the menace of a shortage abated somewhat. The pumpage obtained from this new well convinced us that an adequate supply of water could be obtained at this location by drilling a series of 24-inch gravel packed wells. And the underground sand and gravel stratum



Operating current for the plant passes through the two G. E. transformers shown at the right and is controlled by the attractive switchboard above. One of the 3 Worthington pumps is at the extreme right of the control panel.

would be replenished by annual rainfall at a rate more than adequate to assure the continued usefulness of the supply.

Late in 1940 the plans for the new construction were completed. They provided for the drilling of 9 new wells each equipped with a deep well pump, motors, transformer equipment, electrical controls, and a pump house and administration building to complete the whole at an estimated cost of $425,000.

However, here in Schenectady, almost overnight industries supplying the Government with lend-lease materials sprang up. During the winter and spring of 1941 the water required by these industries created a problem of increased shortages. While this situation was becoming more and more acute Congress, aware that the problem of water supply in many communities activated by the war was reaching a stage where immediate action was necessary unless the war effort was to be seriously hampered, passed the Lanham Act providing funds to assist these communities. The city filed an application with the federal government in August 1941, and after many conferences with federal authorities relative to the merits of our plans, a grant of $120,000 was made early in 1942.

The city received bids for the construction and awarded the contracts. Layne-New York Company started on September 30, 1942 to dig the nine 24-inch gravel packed wells. Each well was dug to a depth of 70 feet and tested for a flow of 3,500 gpm. Multiple pumping tests of four wells at a rate of 20 mgd were conducted. Very little draw-down of the ground water resulted. These wells spaced 50 feet apart were completed February 23, 1943.

Early in April 1943 the Stock Construction Company of New York started work. Roads were graded. Well house construction went forward. Valve chambers, piping, and piping connections to the feeder mains which pass in front of the new station were installed. Gas filled cable, switchgear, motors, control panels, cabnitrol, and transformers began to arrive. The nine 4-mg deep well pumps were delivered. By the end of December 1943 it seemed that it would take still another month to complete the plant. By the first week in January 1944, however, it was apparent that the old plant could not hold the fort much longer. The level of the 20-mg Bevis Hill reservoir was dropping slowly but surely.

January 15 arrived and with it the drama of Schenectady's water supply approached a crisis. An emergency solution was effected by making a hydrant-to-hydrant connection between the Latham water supply and the city supply. By this method a supply of ½ mgd was obtained for a period of 6 days.

January 17—two of the new wells were sterilized, and the pumping was started into the distribution system on January 18. Four other wells were treated and the sanitary quality of the water tested. On January 21 construction reached the point where the entire water load of the city was furnished by the new station and the old station was completely closed down.

Since that time the new plant has been operating very satisfactorily and an abundant quantity of water has been available to meet the city's all-time high daily average demand of 17 mgd and it could easily supply 30 mgd.

Savings in the operation of the new plant over the old are very gratifying. Comparing February, March, and April of this year with the same months last year at the old plant we are saving $1.50 per mg in power cost or $25.50 daily. These figures are based on a 17-mgd average for last year. On this basis an annual savings of between $9,000 and $10,000 will be made.

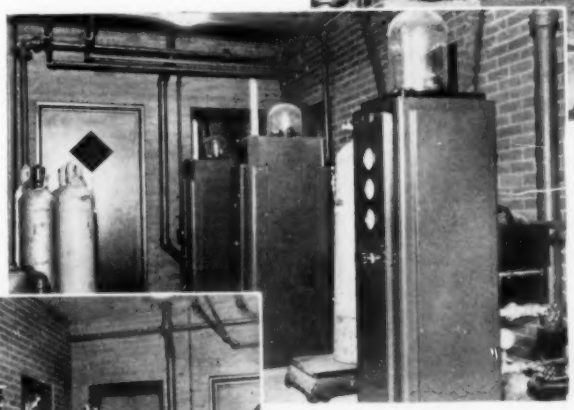
This saving is affected by the more efficient pumps which have motors with smaller capacities running at full load with no throttling of discharge valves. The old pumps had to be throttled with a resulting loss of power and, also 40 percent of the water pumped by the old units had to be reduced 20 pounds in pressure by a pressure-reducing valve and this somewhat expensive procedure was eliminated in the new system.

The results of bacteriological analyses of the various wells show the sanitary quality of the new supplies to be excellent.

Because Schenectady's water travels naturally through underlying sand and gravel it is filtered sufficiently to provide an excellent, pure, cold and sanitary quality of water so

(Concluded on page 105)

RIGHT: *The interior of the Schenectady water works pump room.*



LEFT: *Chlorine and ammonia are stored here prior to going through the chemical feeders shown above.*

Fire station in Colorado Springs, Colorado. Three more fire stations of this attractive bungalow type are planned for construction under the post-war program to replace old style "fire houses" in residential areas.

Financing, Timing and Public Relations Carefully Planned

By FRED R. BAKER, JR.
City Hall Reporter
The Evening Telegraph
Colorado Springs, Colo.

Colorado Springs Plans for Post-War Jobs and Public Improvements

COLORADO SPRINGS, Colorado, a "tourist town" in pre-war days with a population of 37,000 by the 1940 census, now enjoys an estimated population of 60,000, due to the location of three large military camps in the vicinity. However, the city officials are cognizant of the fact that the downfall of the Axis nations will probably result in a reduction of trade and population, and have formulated and proposed an elaborate post-war construction program that includes many unique features.

The program is a six-year plan, calling for an estimated expenditure of $4,469,000. The plan has been so drawn up by City Manager E. L. Mosley that the entire program can be financed by the city without the aid of federal grants, if desired, with the issuance of but $765,000 in general obligation bonds. Provision has been made in the plan, however, for the citizens of Colorado Springs to vote on whether or not they wish to do the job themselves, or call on the federal government for help.

The program will not only afford an opportunity for the employment of many of the service men returning to the Pike's Peak Region, but will also serve to accomplish major improvements that will be of inestimable value to the city in the years to come.

The entire program has been so

PHOTO BY FRED R. BAKER, JR.

Modern Bridge over Fountain River Channel. Under post-war plans, Colorado Springs would construct three more bridges of this type and complete re-channeling and rip-rapping of Fountain River channel, thereby removing all danger of a recurrence of the disastrous flash flood of 1935.

PHOTO BY FRED R. BAKER, JR.

New Water Filtration Plant. The water distribution system would under post-war plans be so arranged that the entire supply of water from Colorado Springs' fine mountain storage system could be processed in this plant if necessary. The plant will also supply enough water for average needs from the Fountain River, exclusive of the mountain storage system.

worked out that the utmost in flexibility has been obtained. If the City Council wishes to change a project listed for the first year to the sixth year, it can be done without causing confusion; a third year project can be put off until the fifth year, and so on. Provision has also been made so that any one of the fifty individual projects in the over-all plan can be withdrawn without upsetting the general program.

Planned Expenditures

A general statement of the planned expenditures in this program is as follows:

Additions and improvements to water system	$1,425,000
Construction of public buildings	770,000
Drainage and sanitation improvements	852,000
Streets and bridges	280,000
Gas and Electric Department improvements	771,000
Parks and recreation facilities	313,000
Airport conversion (port is now an Army field)	50,000

How this program would be financed without the help of Federal grants is shown in the following table:

Surplus earnings of Utilities Departments	$1,240,000
Current taxation	883,500
Special assessments	370,500
Cemetery Department surplus	120,000
Sale of revenue bonds	1,090,000
General obligation bonds	765,000

The major projects included in the seven items of estimated expenditures, by departments, reveal the following improvements which will be of lasting interest to the citizens of the city:

Water System Improvement

Although Colorado Springs has one of the finest mountain water storage systems in the United States, a filtration plant which can supply a portion of the needs of the city from the Fountain River was completed in 1944. The post-war plan provides for the expenditure of $1,110,000 for the re-arrangement of supply lines so that the mountain water supply can also be treated at the filtration plant. This may be a necessary step if the mountain areas are opened to the public as a recreation area.

Improvements to the irrigation system throughout the city would account for $145,000.

Additions and improvements to the present water distribution system would cost $160,000.

Included is an item of $10,000 for the construction of two modern caretakers' houses on the watershed.

Public Buildings

A project under this heading which would result in revenue for the city is the construction of a commercial fertilizer manufacturing plant at the present Sewage Disposal Plant to cost $50,000.

The construction of a new police building, including a city jail and detention quarters for women, would cost $225,000. The construction of this building would allow the present City Hall, in which the Police Department and jail are located, to be used for administrative offices.

The replacement of three "old style" fire stations in residential districts by modern "bungalow type" stations would cost $90,000.

The addition of another nine holes to the present 18-hole Patty Jewett Memorial Golf Course would add $50,000, and a new swimming pool and community center in a less prosperous section would add another $40,000.

One of the largest items in the building program is the addition to Memorial Hospital, owned by the City, of a new wing to accommodate fifty-eight beds and an addition to the Nurses' Home, total $230,000.

Drainage and Sanitation

One of the newest sections of residences in Colorado Springs is located on an east-slope that will require a major storm sewer project. The installation of this sewer system will add much to the value of the new homes in that area. The cost of the project would be $102,000.

The improvements and additions to the sanitary sewer system would cost $60,000.

The greatest part of the Fountain Creek channel, which runs through the city, has been improved and flood-proofed since the disastrous flood of 1935. However, a small part of this remains to be completed and $50,000 has been estimated as the cost of the project.

Streets and Bridges

Three modern bridges would be constructed in the city at a cost of $50,000. The rest of the $280,000 estimated under this heading, would be in the nature of street improvements, additions to the pavement system, curb and gutter installations, and the elimination of traffic hazards.

Gas and Electric Departments

The placement of the entire electric distribution system in the downtown section of Colorado Springs underground heads the list of improvements in this division, estimated cost to be $500,000.

Modernization of the street lighting system throughout the city would cost $75,000.

Modern repair shops for the Gas and Electric Department, plus a new warehouse for the entire utilities set-up is also included in an item of $150,000.

Improvements to the present gas distribution system and the addition of some distribution areas would cost $160,000.

A new 5,000-kilowatt generator has already been released to the city by the War Production Board, cost not included here; and the construction of another spray pond at the power plant at an estimated cost of $40,000 is included in the post-war program.

Parks and Recreation

Extensive plans are being made for recreation activities in Colorado Springs after the war. As an aid to these plans, $58,000 would be expended for the betterment of the present parks and the construction of three new playgrounds for smaller children.

An entirely new project comprising some 90 acres of vacant land is to be improved as a general sports and recreational center at a total cost of $150,000.

Airport Conversion

The Colorado Springs municipal airport was taken over at the beginning of the war by the Army Air Forces, and is now known as Peterson Field. City Manager Mosley has included $50,000 in his

post-war plan for the conversion of this installation to civilian use, when and if the Army Air Forces remove their activities.

Financial Plans

As was pointed out above, the entire program can be financed with the issuance of only $765,000 in general obligation bonds, which will be necessary for financing the public building section of the program alone, if the taxpayers of Colorado Springs desire them sufficiently to approve them by their vote.

Special assessments have been held to a minimum figure, $370,500, and would, of course, be assessed only to persons whose property was directly benefited by the improvements.

In presenting the proposal to the Council, City Manager Mosley made the statement that the program was based in its entirety on the assumption that the *present* tax levy would be maintained.

The post-war program as submitted does not include any projects in which a federal agency is already interested. A long list of improvement programs which will fall under these categories are also planned for the city, such as the re-location of arterial highways through the city. General maintenance work, which has had to be curtailed because of wartime conditions and which will be a major project in post-war years, was also left off the post-war program.

Timing

In working out a time schedule for the program, the first year has been made a relatively small one, since officials believe that many of the materials and equipment necessary for the major projects will not be available for use in the first year after peace is won.

The second year of the program would be the heaviest, with the expenditures tapering off to the sixth year. The time schedule, by expenditures, is:

First Year	$ 350,000
Second Year	1,550,000
Third Year	880,000
Fourth Year	750,000
Fifth Year	600,000
Sixth Year	350,000

Public Relations

So that the people may know the details of the post-war plan and how it will affect them, a splendid campaign of public relations has been worked out by Mr. Mosley. The press and radio were given copies of the entire program as soon as it was presented to the Council, and releases are issued each time a new development is encountered.

Meetings between various municipal and civic groups and the Planning Commission spread the story to those parties.

The City Manager has worked out a colorful, yet simple, chart which shows graphically how the money would be obtained and how it would be spent.

A comprehensive booklet, explaining the program in detail, is now in preparation and will be available to anyone interested at no cost.

When the voters of Colorado Springs go to the polls in the municipal election of next April, they should have no question in their minds as to what the post-war proposals on the ballots mean, thanks to the progressive public relations planning of the city officials.

Planning for Post-War Action

"There is a tide in the affairs of men
Which taken at the flood, leads on to fortune. . . ."

IN the Foreword to the Australian Report, John F. W. Scarborough, President of the Royal Australian Institute of Architects, makes this appeal:

"This tide already runs, swiftly and irresistibly, towards a new era in this world's life and in the affairs of men. That era to which the United Nations have set their hands, embodies not only National ideals, but the ultimate fulfilment also of individual hopes and aspirations.

FOR MUNICIPAL LEADERS *seeking some graphic way of presenting an appeal to their fellow-citizens for support of a program of post-war planning and reconstruction, the two illustrated pamphlets issued respectively by the Building Industry Congress of Victoria, Australia, and the Royal Australian Institute of Architects, Melbourne, are excellent models from many points of view—the rounded analyses of the problems, the reasonable solutions proposed, the graphic presentation of findings, and the attractive format of the publications.*

"This report gives emphasis particularly to this point, viz.: that planning of this nature should precede action by at least two years.

"The need for action is already urgent but we are still awaiting that essential prerequisite, the Plan. . . . The proposals submitted in these pages provide not only an outline of the problem to be faced, but indicate also those lines along which a plan for post-war development should proceed."

"Reconstruction may find its own limitations but construction engenders new zeal and a future not visionary only but one capable of achievement by capable means, allied to ordered imagination.

"To attain this goal, method with knowledge is essential and the scientific application of these attributes will provide that vital necessity, the pattern, the plan for the future. Social security, housing, industry, transport, the people and the individual, all find a related place in this great plan.

"A plan there must be but only a far-seeing one is worthy of the name and opportunity. It must be based upon known facts, upon resources of this land and, when classified, welded to the needs and aspirations of its people.

"Community Institutes" as War Memorials

By WALTER D. COCKING
Managing Editor
The School Executive

DR. COCKING PRESENTS
here some important aspects of the recently published proposals of the Education Policies Commission, a joint Commission of the National Education Association and the American Association of School Administrators. The Servicemen's Readjustment Act of 1944, popularly known as the G.I. Bill of Rights, summarized on page 105 of this issue, makes such proposals not only timely but imperative.

PEOPLE in all countries everywhere have built through the ages memorials to honor those who have given their lives in defense of their country's honor. These memorials have, of course, taken many different forms. Some have served some useful purpose, but many have been merely architectural monuments. In these later years, Americans are coming to accept the belief that the most suitable type of a war memorial is one which enhances the life of the living, and which helps the living to realize more fully the purposes for which the dead fought and gave their lives. This reasoning seems wise and eminently proper.

Already many communities are giving consideration to the planning of suitable memorials to those who are making the supreme sacrifice in the present global struggle. Many proposals are being made. Among the useful and suitable memorials none could be more fitting than a school building—the structure in which in large measure the American way of life is developed and safeguarded.

Schools, after the war, will need to make considerable revision of their programs and undergo a rather large expansion so as to meet new and changing functions and responsibilities. Schools, in contrast to the late twenties and early thirties, must accept the obligation to provide a worthwhile program for *all* American youth until these youths have found a permanent place in a desirable occupation. Even then they must be ready to provide additional educational opportunity as it is needed and demanded. School officials are giving this problem much consideration in many American communities. Many suggestions are being made as to how much a program can be provided.

A Practical Plan for the Education of American Youth

Probably the most practical and certainly the most carefully worked out plan is that proposed by the Educational Policies Commission, a joint Commission of the National Education Association and the American Association of School Administrators. This plan is presented in a Report of the Commission which was issued in October and entitled "Education for all American Youth."

The style and plan for this Report are unique. It is written as if it is now 1954 rather than 1944. It therefore describes what is supposed to have already happened and it describes the effects of the actions taken. In this manner, the Commission presents the problems to be met, the program to meet them, and the results which should occur, or which it believes will occur.

Considerable attention is devoted to an educational institution which the Commission calls *The Community Institute*. It is proposed that this institution be of a regional nature, probably about 30 in number in a populous state such as New York and only 3 or 4 in sparsely populated states such as Nevada and Wyoming. The institution would serve an area, therefore, rather than one individual town or school system. The Community Institute's program would be geared primarily for those young people who have completed the work of the usual 12 grades or who have found the work of such schools unadapted for their needs. The purposes of the school and the way it is expected to work as set forth by the Commission are as follows:

Purposes to Be Served

1. Some students want to prepare for various technical and semi-professional occupations which require all the training that high schools can give and one or two years in addition. In this group, for example, are those who wish to become accountants, draftsmen, laboratory technicians, dietitians, assistants in doctors' and dentists' offices, and managers of various businesses.

2. Some want advanced training, beyond that which can be offered in the years of high school, in the occupations for which high schools provide the basic preparation. Machine shop, metal trades, retail selling, office management, automobile and airplane mechanics, and the various building trades are examples. In one or two years at the Community Institute, a student is able to extend his mastery of basic operations, enlarge his knowledge of related science and mathematics, secure more practical work experience, and advance in his understanding of economic processes and industrial and labor relations.

3. Some want to prepare for admission to professional schools and the last two years of technical and liberal arts colleges. For various reasons, they prefer to take the first two years of college or university work while living at home. For them, the Community Institute provides courses comparable to those of the first two years of the four-year colleges.

4. Some want to round out their general education before entering employment or becoming homemakers. To them the Community Institute offers a wide range of elective courses in science, social studies, literature, languages, psychology, home economics, music, dramatics, art, and handicrafts.

5. There is yet a fifth group, composed of adults and older youth, mostly employed, who no longer attend school full time, but who wish to continue their education during their free hours. Their interests are wide and varied. Some spring from their daily work, some from their home life, some from their civic activities, some from their uses of leisure time, and some from the simple desire to "keep on growing." Some enroll in the regular Institute courses. Most attend evening classes which are organized especially for them. These classes may meet anywhere in the city, but they are all a part of the Community Institute program, for this is the school system's agency of adult education.[1]

The Report points out four important differences between the Community Institute and high schools: (1) In the Community Institute, more of the student's time is given to vocational preparation—normally three hours a day or half time, although it may be more or less. (2) The Community Institute serves not only the city, but also the large tributary area within a radius of some fifty miles, and in the cases of a few occupations, the state. (3) The Community Institute of-

[1] *Education for all American Youth*, Educational Policies Commission, National Education Association, Washington, D. C. p. 246-247.

fers training in a much larger number and variety of occupational fields than the high schools. (4) The Community Institute offers part-time education (either vocational or general) to youth no longer attending school full time, and to adults.[2]

Work Experience for Students

Another important part of the program of the Community Institute is the opportunity provided for students to secure work experience under sympathetic and skilled supervision. The Report on this point says in part:

> Most of the students in Community Institute terminal courses include in their programs a supervised work experience under employment conditions. . . . The administration of this program is no small task. Some 900 jobs of this type have to be located each year for Institute students and some 400 more for high school students—even more in fact, since some jobs must be rejected because of unsatisfactory working conditions. Those employers to whom this is something new have to be informed as to the educational purposes of the work experience and the joint supervision by employer and school staff which is needed to accomplish these purposes. Working conditions have to be investigated, to see that they meet all requirements of laws and regulations about safety and the employment of minors. Jobs have to be assigned to students, jointly by counselors and vocational teachers, so as to fit into their individual plans as helpfully as possible. And supervision must be provided by the vocational instructors as well as the employers. This program is possible only because of cooperation on the part of most of the larger and many of the smaller employers, of the public employment service, and the Occupational Planning Council.
>
> Probably the experience of the war years did more than anything to win the support of employers. In those years, when labor was scarce, the industries and business concerns turned to the schools for help. Hundreds of boys and girls went to work on the "four-four plan"—four hours in school, four hours at work—with school supervision and credit for work. The results, on the whole, were highly satisfactory to employers. Factories found it almost as convenient to schedule four-hour shifts as eight-hour shifts. Retail stores found it economical to use students during their peak business hours. Offices requiring full-time workers found it possible to arrange for two students to share a single job. Many of these young workers, aided by class work and school supervision, grew rapidly in their efficiency and proved as productive, or more so, than older, more experienced workers.[3]

Many other interesting phases of the program of the Community Institute merit description. Suffice to say here that the whole program of the school is geared to meet the needs of older youth and also adults who live in the area served by the schools. Fexibility in program willl be marked in these schools so that they may attune their work to the changing needs of the areas which they serve.

Any community which has the vision and good sense to build such an institution will indeed have provided a memorial to its honored dead which is in keeping with the cause for which they fought and gave their "last full measure of devotion."

[2] Ibid. p. 300.

[3] Ibid. p. 305.

How Genuine Is Our Interest in Youth?

Excerpts from "Education for An American Youth," recently published Report of the Educational Policies Commission

IN the building of our country's future, the education of our youth comes first. The war has reminded us of many virtues and ideals that we had forgotten. One of them is the duty we owe to our children in the provision of their education, not education merely in terms of books, credits, diplomas, and degrees, but education also in terms of living and of preparation for future living.

Look about you. See what we now, in wartime, find it necessary and proper to do for our young men and women in the armed forces. Every one of them is taught some specific occupation, useful to him and to the nation. The health of all of them is zealously guarded by every resource of medical science. Their diet is ample and nutritious. There is useful work for each one of them. Opportunities for their recreation are provided everywhere. They are well-clad and cleanly-housed, well-fed and carefully educated. We compete among ourselves to see to it that they have books to read, music to hear, space to play. We stay at home that they may travel. We deny ourselves that they may have abundance. Their morale and their civic loyalty are our constant concerns. The uniform which proclaims them Americans is the complete and sufficient guarantee everywhere of just and considerate treatment for *all* American youth. This all costs time, effort, sacrifice, thought, and a great deal of money. But we would be properly ashamed to consider convenience when their welfare is at stake.

Shall these young people, and their successors in the onward-moving generations, be less precious to us when the firing ceases? Is our concern for their welfare, health, education, merely a selfish reflection of our desperate need for their youthful energies and lives on the field of battle? Are we going to forget youth as soon as we no longer need them to fight in the war which we allowed to happen? Where we now teach them how to work, shall we later tell them that their services are not wanted? Where we now assure them that the future of our nation lies in their keeping, shall we later tell young people, in effect, to keep out of civic affairs? Where we now provide college education for all persons qualified for leadership, shall we later return to college education as an economic privilege? Shall we, as soon as peace comes, declare an end to all hopeful cooperation for the welfare of our youth? Shall we then pinch the pennies for peace where we now deal out dollars for destruction?

New Responsibilities

Schools should be dedicated to the proposition that every youth in these United States—regardless of sex, economic status, geographic location, or race—should experience a broad and balanced education which will (1) equip him to enter an occupation suited to his abilities and offering reasonable opportunity for personal growth and social usefulness; (2) prepare him to assume the full responsibilities of American citizenship; (3) give him a fair chance to exercise his right to the pursuit of happiness; (4) stimulate intellectual curiosity, engender satisfaction in intellectual achievement, and cultivate the ability to think rationally and (5) help him to develop an appreciation of the ethical values which should undergird all life in a democratic society. It is the duty of a democratic society to provide opportunities for such education through its schools. It is the obligation of every youth, as a citizen, to make full use of these opportunities. It is the responsibility of parents to give encouragement and support to both youth and schools.

How a Street Department Works in a Small War City

Fayetteville, N. C., utilizes its street equipment completely to keep its street system operating at peak efficiency

THE maintenance and construction of streets and storm sewers and the collection and disposal of garbage and refuse come under the joint supervision of two verteran municipal servants at Fayetteville, N. C. One is City Engineer W. W. Baker and the other, Street Superintendent Fleet Hall. Both men have had their hands full during these busy wartime days while their city has been keeping pace with the growing population demands that nearby military centers have thrust upon it.

Fleet Hall, Street Superintendent, inspects one of the catch basins installed as part of the storm drainage improvement recently completed. In the background, a Northwest trench hoe used in the construction.

Last year this city completed 1½ miles of storm drain with catch basins; and this year it is in the process of building 2½ additional miles. Pipe sizes range from 24 to 48 inches in diameter and consist of reinforced concrete pipe. The previous year's project serviced the older portion of the city while the new improvement is devoted almost entirely to that part of the city that has been built up by recent war activity.

To maintain the city's existing streets and to collect garbage and refuse, Fleet Hall uses the following equipment:

- 2 Caterpillar motor patrols
- 1 one-bag Rex concrete mixer
- 1 gasoline powered Galion 5-ton roller
- 1 Gar Wood Load Packer garbage truck
- 5 open bodied trucks
- 1 Etnyre 500-gallon street flusher.

The use of the Load Packer garbage truck was in the form of an experiment that has proved particularly encouraging, Mr. Hall states. The truck carries larger loads more efficiently and with less nuisance to the inhabitants in the neighborhoods that it travels. There always seems to be a scramble by the men to get this truck, he says.

It isn't very often that we find a street flusher doubling as a snow-removing unit, but that is what happens at Fayetteville.

One of the prized units of equipment recently acquired is a new Gar Wood Load Packer refuse truck.

Mr. Hall makes unique use of his flusher for snow removal work. Although snows do not present the problem in North Carolina that they do in northern cities, they nevertheless do occasionally occur and give Mr. Hall the job of keeping his streets open.

What he does is to apply salt throughout the entire duration of the storm making the snow soft and mealy, and preventing its bonding to the pavement. When the snow is over he brings out his Etnyre flusher and flushes the streets clear, thus eliminating expensive handling and hauling costs.

"The system is tailor-made for cities like Fayetteville," Superintendent Hall states. "It may be that the system won't work other places but it does the business here and that is the locality we are primarily interested in. As a matter of fact, we can't see why it won't work in other places, particufor certain types of snows. One could even add a little salt to the water in the flusher if he were afraid of ice on the streets."

A Diesel Civic Center

By WILLIAM H. GOTTLIEB

Argos, Ind., houses all city offices in one building with a 675-hp Cooper-Bessemer Diesel Plant to pay the bills

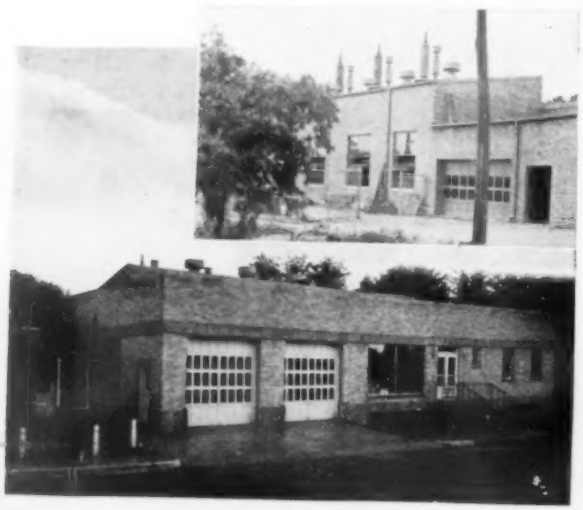
WITH one sweeping public improvement program, Argos, Ind., has brought city offices, public service headquarters, and city power and light systems to full modernity. This village of 1,200 population, like hundreds of other small communities, had housed its civic offices in makeshift quarters. As for electric light and power, the citizens had to pay high rates and rely on the vagaries of a public utility's high line service. At the dictates of the people, recorded in a public referendum, Argos set out to correct these conditions. The result is a compact civic center and municipal power plant which might well serve as a model for small town America. It is appropriate that the center should be built around a Diesel plant for it is expected that this will finance much of the cost of municipal government.

A one-story brick building with broad stone trim houses a surprising number of facilities. There is the City Clerk's office, a Council Room, a public library with adjoining office for the librarian, the fire house, police headquarters, and public restrooms. The rear section of the building which is shut off in the interests of soundproofing serves as a spacious powerhouse with three 225-hp Cooper-Bessemer Diesels and the switchboard. This section is lined with tile and has a metal roof. A large basement, reached from the engine room by a short broad ramp, holds the Diesel accessory equipment, air-conditioning machinery and the town jail. Adjoining the powerhouse is a garage and service room for the electric and water departments' equipment. Even the roof performs a dual function, serving as a water reservoir for the air-conditioning system.

To obtain this modern civic center and power plant, Argos floated a bond issue of $110,000, but the town has no intention of increasing taxes to carry and amortize the indebtedness. Careful and conservative calculations show that earnings of the Diesel plant will pay the entire cost of the improvements and eventually will support much of the cost of community services, thus permitting an actual reduction in taxes. This is to be accomplished at the same time that electric rates are cut and service to the consumer improved.

To insure the success of this program, Argos exercised great care in the choice and design of its power plant. The engines chosen were three identical 4-cylinder, 4-cycle, mechanical-injection, Type GN, Cooper-Bessemer Diesels of 10½-inch bore and 13½-inch stroke, rated at 225 hp each at 450 rpm. It is felt that identical units of this size will provide considerable flexibility, permit operation at good load factor, and will make it unnecessary to carry a large stock of repair parts. Each engine drives directly a 150 kw, 187.5 kva, 3-phase, 60-cycle, 2,400 volt, Elliott generator with a 5 kw exciter mounted on the frame over the outboard bearing and driven by a vertical V-belted drive. These engines embody several improvements in design and are virtually self-sufficient power units.

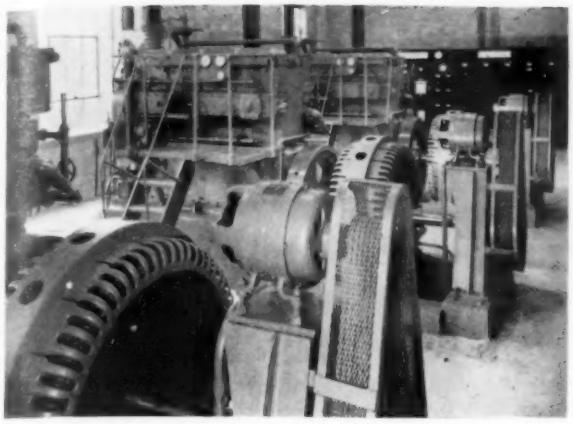
All parts of the engine are completely pressure lubricated and much of the lube supply is forced into the pistons to cool the piston crowns. No hand oiling whatsoever is required. The lubricating oil is circulated by a built-in Viking rotary pump driven off the crankshaft. This pump has a straight-line suction from the individual sump tank below floor level. When an engine is started, pressure in the lube system comes up to the desired level almost instantly. Included in each engine circuit are an edge-type Cuno filter and a compact Harrison oil cooler. Like so many of the accessories, these are on the engine. Periodically, oil will be drawn from each sump tank to a used oil tank, then put through an activated clay Honan Crane purifier and gathered in a clean oil tank either for immediate return to the sumps or for additions as needed.



The Argos, Ind., Diesel Civic Center combines with its Diesel plant housed in the rear portion of the building (shown in the insert), its public library in the right, its city offices in the center section, its fire department and other city offices in the left section of the building.

Cooling System

The Diesels have the protection of a closed cooling water system and here again the element of self-sufficiency is in evidence. Soft water is circulated through the jackets of each engine and through a common shell-and-tube Sims heat exchanger by a centrifugal pump built into each engine. Raw water is circulated through the exchanger and over an atmospheric-type Marley cooling tower by one of the two motor-driven American-Marsh centrifugal pumps rated at 275 gpm at 75-foot head. City water, put through a Puritan zeolite softener to reduce it to 1.5 grains, is used for jacket make-up. City water with its original hardness of 5 to 6 grains serves as make-up for the raw circuit. Since the engine cooling system impinges on the Trane air-conditioning system for the building, it seems appropriate to describe the latter at this point. In summer, a motor-driven fan draws air from the plant basement and blows it across coils carrying cold water inside the air-conditioning unit. The cooled air passes through ducts to all parts of the building. As for the water, some goes to the insulating reservoir on the roof and the rest to the sewer. In the winter time, hot engine jacket water is put through the conditioner's coils and the same fan and duct system serves to heat the building. An oil fired



This view of the three 225-hp Cooper-Bessmer Diesels driven by Elliott generators shows also the fuel valves, Woodword governors, Purolator fuel filters, the built-in gauge-board, and, in the background, the Electric Service switchboard.

Kewanee boiler has been provided in the event that more heat is needed during extremely cold weather.

Fuel is brought to the plant by truck and unloaded by gravity into three 4,000-gallon underground tanks. A motor-driven Worthington rotary pump transfers fuel from storage to the three 66-gallon elevated day tanks mounted over small settling tanks on the engine room wall. The fuel feeds by gravity to the built-in pump on each engine which supplies the C-B pressure-relief, common-rail injection system. Injection nozzles on these Diesels are of a new Cooper-Bessemer design. Each engine is equipped with a Purolator duplex bag-type filter. The quantity of fuel injected is regulated by a new, highly compact relay-type governor for each unit.

Gauges

One self-sufficiency feature which is of particular assistance to the operator is the gauge board on each engine, with pressure gauges for fuel, lube and starting air. Also on the engine are a multi-point Alnor exhaust pyrometer and a Sylphon alarm system. The alarm is sounded and a red light turned on if lube pressure drops below 20 pounds or if lube oil or cooling water temperature rises above predetermined limits. The 12-panel main switchboard has complete equipment including three Eseco voltage regulators, Roller-Smith synchronizer, oil circuit breakers, General Electric totalizing kilowatt-hour meters, and three-phase electrostatic ground detectors and recording cycle meter. Starting air is provided by a vertical Curtis compressor which may be V-belted to either an electric motor or a Briggs and Stratton gasoline engine.

As befits a civic center, this building is just a few yards off Main Street in the center of town. This central position makes it imperative that engine operation be quiet and unobtrusive. Intake air for the Diesels passes through individual Burgess oil bath filters on the plant roof and then through intake snubbers before reaching the engines. Exhaust gases from each Diesel go up through the roof to the three vertical Burgess exhaust snubbers. The result has been effective silencing of both intake and exhaust. On the whole, engine noise is so slight that it is not noticeable in the forward part of the building. The Diesels obey the rule that libraries shall be quiet. To eliminate vibration, all connections to the engines have sections of flexible metal hose.

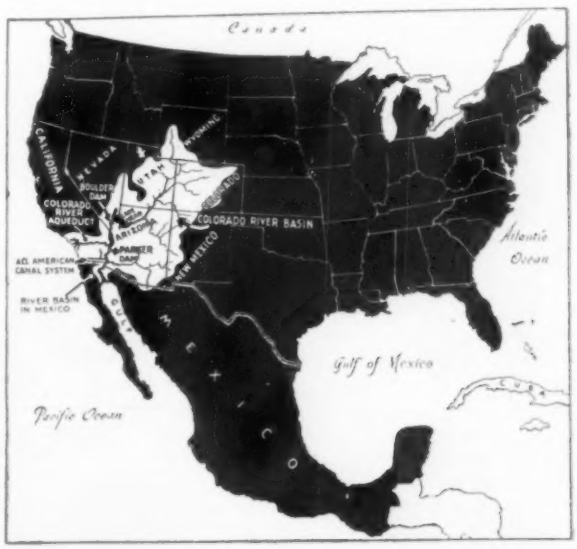
The power system is run under the direction of Mayor F. L. Helsel, Councilmen W. O. Tracy and Elda Sissel, and L. W. Ritter, Clerk and Treasurer. Active operations are directed by Superintendent James H. Hill.

Any civic center so modern and so complete would be an asset to its community. By making a municipal Diesel plant its basic element, Argos has made its center self-supporting and promises its citizens further financial and social benefits in years to come.

Water Treaty and Western Water Resources

ACCORDING to a recent issue of the *Western City*, the proposed treaty to deliver annually to Mexico 1,500,000-acre feet of Colorado River water, now before the Foreign Relations Committee of the United States Senate, would seriously impair the water rights of cities and agricultural areas on the Colorado River in the United States, thus directly affecting seven western states.

The delivery of this vast amount of water to Mexico is twice the amount which Mexico has ever been able to obtain and use prior to the construction of Boulder Dam, and the Congressional Act authorizing the Boulder project specifically provides that the water saved and stored by this great dam shall be used exclusively "within the United States." The requirements of Arizona, California, and Nevada water contractors on the Colorado River already call for more water than can be expected to become available when the Boulder project is fully developed. Since Mexico has now a dependable water supply far exceeding that formerly available to her, and those areas in the Colorado River Basin are still lacking in water facilities, U. R. Updegraff, Manager and Editor of the *Western City*, advocates that the proposed treaty be opposed.



The Colorado River Basin, as shown here, reveals how relatively large and important this river system is to the United States. The drainage area of the river is 242,000 square miles in the United States and none in Mexico. All developments of this river have been made in the United States at the expense of the Government.

Community Integration of Cities, Villages, Townships, and County

By CLEMENT G. BOWERS & GEORGE BAIN CUMMINGS
Chairman — Executive Secretary
Broome County Planning Board, Binghamton, N. Y.

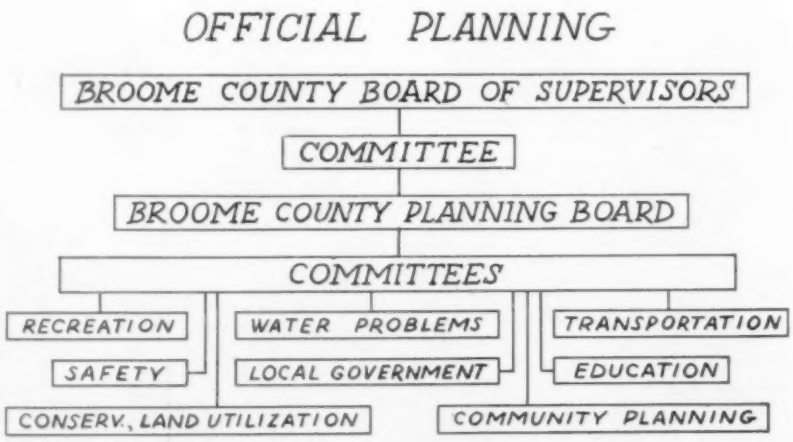
COMMUNITY integration in its larger sense is a problem confronting many urban officials and planning boards, especially where suburbs or neighboring communities are involved. Districts frequently grow up around a community, becoming virtually a part of the community but outside its corporation limits and completely uncontrolled by municipal planning or enforcement authorities. There are also the common problems of neighboring communities which require some means of coordination for the good of all concerned. There is also the matter of obtaining public support. The way these problems are being attacked in a New York State community is here described.

The so-called "Triple Cities" of Binghamton, Endicott, and Johnson City exist as independent but closely intermingled communities in Broome County, New York. Around them is a mixed agricultural and industrial area, forming a metropolitan district which covers the entire county and embraces a total of about 175,000 people. In this area there are four municipal or village planning boards, seven township planning boards, and the Broome County Planning Board which aims to coordinate the area as a whole. While the County Board has small legal authority on the local level, outside of county work, it is charged with the duty of erecting an over-all master plan for the benefit of all localities. Thus its position is one of service and research—first for the county government itself, and next for the benefit of the local components. Outside of the limited list of things controlled directly by the county government, the power and authority of the County Planning Board derives mainly from the amount of voluntary adherence it receives from local sources. This, in turn, is somewhat proportional to the amount of service the County Board is able to render local units and the advantages which they receive from participation in a broad regional scheme

Twelve County Boards Confer Bi-Monthly

The Broome County Planning Board was organized in 1937 and is responsible for a broad survey of the county, the origin of several rural township planning boards, and much technical assistance to local groups. From 1941 to 1943 it virtually put all its facilities into war emergency work, and has resumed active planning work only recently. A similar situation has existed in most of the local planning boards. Late in 1943, as post-war problems came into view, the County Board took the initiative in reawakening and reactivating the planning movement in general. This was accompanied by similar interest on the part of citizen groups. On the official level, a first step was taken by calling a joint meeting of all the twelve official planning bodies of the county. Representatives of these boards met at dinner, compared notes and exchanged information concerning common objectives. This meeting was so helpful that further meetings were arranged and the group soon agreed to attend regular bi-monthly conferences, under the auspices of the County Planning Board. These sessions have now proceeded for one year with notable results.

This over-all group of official planners, augmented by all mayors and certain town officials, exists merely as a loose, voluntary group, without officers, meeting at their own request but by the invitation and sponsorship of the County Planning Board. It is held together by the great advantages that have appeared by reason of its existence. Already it has revived interest, stirred up slumbering local planning boards, and brought requests for action all along the line. The meetings are always held at the dinner hour and an effort is made to insure a worthwhile program at each session. Wherever possible, smallish tables are used and the representatives of the various communities are shuffled up as much as possible in order to promote informal discussion of each other's problems without the domination of one or two elements. Generally one member of the County Board is seated at each table to act as host and moderator for that table. Experts, unobtainable by the smaller communities, are brought in by the County Board as speakers and consultants for the



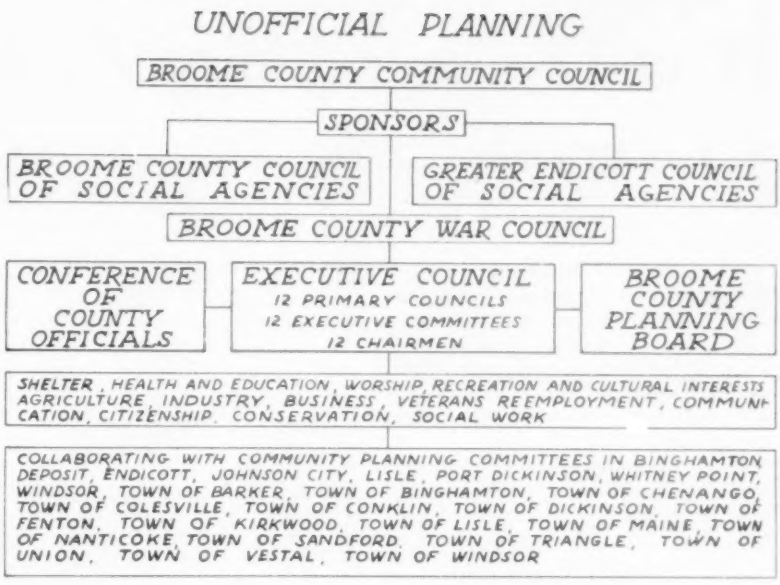
How official planning is organized in Broome County

meeting. The very act of bringing together key officials and planners of all the Triple Cities, around a common dining table and in the presence of expert consultants, invariably leads to exchange of information. Several cooperative enterprises have already resulted. This technique has worked so well and has been so enthusiastically received that it is suggested as a useful device for other regions.

The Broome County Planning Board is further equipped for leadership by reason of its permanent office, its professional staff and its personnel. It is located in the Court House, has facilities for keeping permanent records and information, and is equipped to render service to local communities. Its Executive Secretary is an architect and its Planning Aide is an engineer. As consultant on technical matters, a professor of city planning in a neighboring university has been engaged on a per diem basis. The members of the Board are all professional men, serving without pay, well diversified in their fields, generally experienced in official planning and entirely non-political. The caliber of the County Planning Board's studies has been sufficient to attract men of the highest character and ability, and the outstanding quality of these men, in turn, has gained for the Board a large amount of prestige and respect throughout the county. An effort is made to keep planning on a high professional level and not allow it to become a political issue. Likewise, the function of the planning board as a research organization for the common good is stressed.

Citizens Organize Community Council

Recognizing the need for popular education and support if any worthwhile planning is to be brought into actual existence, a lay group of citizens has been formed to further the study and propagation of community planning. A general steering committee of prominent citizens, representing twelve different segments of interest, comprise its nucleus; around each of these a committee has been formed, with local committees, appointed by the mayors of each corporation or the town supervisors, functioning on the local level throughout the county. This lay organization as a whole goes under the generic name of the Broome County Community Council. This lay group began as a post-war activity of the War Councils, aided by the Councils of Social Agencies in Binghamton and Endicott. There has been close and constant cooperation of this group, however, with the Broome County Planning Board, which has been furthered by the fact that the chairman of the Community Council also occupies the position of Executive Secretary of the County Planning Board. Naturally, too, certain planning board members, interested in citizenship aspects, are members of both lay and official groups.


UNOFFICIAL PLANNING
BROOME COUNTY COMMUNITY COUNCIL
SPONSORS
BROOME COUNTY COUNCIL OF SOCIAL AGENCIES
GREATER ENDICOTT COUNCIL OF SOCIAL AGENCIES
BROOME COUNTY WAR COUNCIL
CONFERENCE OF COUNTY OFFICIALS
EXECUTIVE COUNCIL
12 PRIMARY COUNCILS
12 EXECUTIVE COMMITTEES
12 CHAIRMEN
BROOME COUNTY PLANNING BOARD
SHELTER, HEALTH AND EDUCATION, WORSHIP, RECREATION AND CULTURAL INTERESTS AGRICULTURE, INDUSTRY, BUSINESS, VETERANS REEMPLOYMENT, COMMUNICATION, CITIZENSHIP, CONSERVATION, SOCIAL WORK
COLLABORATING WITH COMMUNITY PLANNING COMMITTEES IN BINGHAMTON, DEPOSIT, ENDICOTT, JOHNSON CITY, LISLE, PORT DICKINSON, WHITNEY POINT, WINDSOR, TOWN OF BARKER, TOWN OF BINGHAMTON, TOWN OF CHENANGO, TOWN OF COLESVILLE, TOWN OF CONKLIN, TOWN OF DICKINSON, TOWN OF FENTON, TOWN OF KIRKWOOD, TOWN OF LISLE, TOWN OF MAINE, TOWN OF NANTICOKE, TOWN OF SANDFORD, TOWN OF TRIANGLE, TOWN OF UNION, TOWN OF VESTAL, TOWN OF WINDSOR

How Broome County citizens organize for planning

Besides acting as eyes and ears for the official bodies, bringing matters of public concern to official planning agencies, acting as supporters of intelligent planning measures and educators of the public, these lay groups of interested citizens are capable of work in fields of planning outside the usual scope of official jurisdiction. They might be useful, for instance, in the coordination of planning for private and volunteer organizations which make up a large part of community effort in such fields as health, sociology, recreation, religion and cultural interests, endeavoring to bring these into harmony with over-all plans. There are many useful functions for citizen groups, not the least of which is to serve as a spur to both the official planning bodies and general public.

In operation, therefore, the planning setup of Broome County is well integrated. The accompanying charts show this graphically.

Municipal Travel Expense Practices

THE problem of expense accounts for municipal employees has never had uniform handling. ome cities grant travel allowances; others do not. In view of this, the Municipal Finance Officers Association sent out questionnaires to various cities to determine what the practice was concerning municipal travel expenses.

Forty-one cities out of 75 replying to the questionnaire advance money to employees for travel expenses. In 31 of the reporting cities, the employee pays his expenses out of his personal funds and obtains a reimbursement later.

Fifty-one cities require expense accounts to be supported by receipts for the major items, while 22 cities report no such requirement. Only seven of the 75 cities have an established maximum allowance per diem.

The official who may authorize travel expenses is not uniform among reporting cities. In 22 municipalities the department head authorizes travel, in 16 the city council does, in 12 the city manager, in five the mayor, in three the controller, and in two the auditor.

Forty-seven municipalities do not require expense reports to be submitted to the council or the committee handling travel reports; 20 do have this requirement. Where the council or a council committee does not pass on the expense accounts, they are usually approved by the controller, auditor or other fiscal officer who passes on all accounts before payment.

Several cities have ordinances prohibiting travel expense outside the city except in emergency cases. In some municipalities ordinances prohibit travel expense for trips outside the state, and in many communities specific authorization is given in the appropriation ordinance for the estimated amount of travel necessary.

How Lewiston, Maine, Repaired a Reservoir Leak

By LIONEL E. ST. PIERRE
City Engineer
Lewiston, Maine

ABOVE: *Here is the leak which developed at the foot of the steps of the old gate house*

RIGHT: *The gate house was rebuilt to make this attractive structure.*

ON Patriot's day, April 17, 1943, a leak at the Lewiston Reservoir developed and a considerable amount of water was seeping through the earth embankment about four feet above the bottom of the slope directly in front of the entrance to the gate house.

It was necessary to stop the leak immediately and this was accomplished by driving wood sheeting about eight feet beyond the gate house for a distance of eighteen feet along the top of the embankment to depths of six to eight feet. In this way the leak was quickly stopped until permanent repairs could be made.

The city of Lewiston obtains its water supply from Lake Auburn, three miles northwest of the pumping plant. The pumping equipment, consisting of 5 Allis-Chalmers centrifugal pumps electrically operated except for one operated by a Sterling gasoline engine, is so designed and installed that a supply of 9 mgd can be obtained though the average consumption does not exceed 6 mgd. Two chlorinators housed in the plant administer 5.94 pounds of chlorine to each million gallons of water. The distribution system is about 89 miles long and serves 90 percent of the population.

The reservoir and gate house, built originally in 1879, is located about two miles southeast of the pumping station and was constructed of an earth embankment with a brick core wall. Its outer slope was lined with cobblestones.

The depth of the reservoir is about 20 feet and it has a storage capacity of 12 mg. Charts from the telemeter at the pumping station indicate that its full storage capacity is maintained. However, during the reconstruction of the gate house the water level in the reservoir was seven feet below normal.

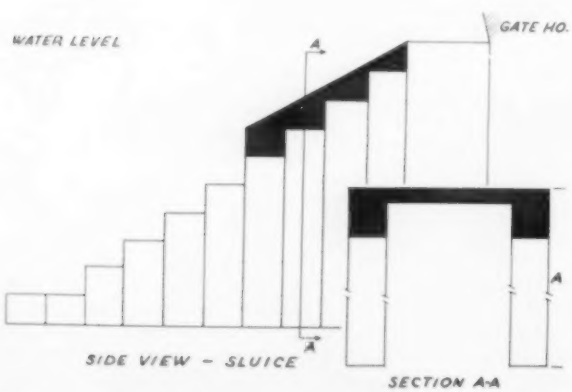
The seepage was caused by frost action. Foundation walls of the gate house were bowed in the spalled ends, indicating that the stones had been subjected to heavy pressures. The rupture inside the foundation occurred about five feet below floor level and extended almost completely around the building. The brickwork of the superstructure showed general cracks spread over all the walls bowing from two to four inches.

Heavy ice formations within the reservoir exerted a thrust on the vertical steps of the sluice in back of the gate house, and, together with the pressure exerted by the freezing ground outside the foundation walls, caused the break to occur.

After 64 years of service it is no surprise that a break occurred in the reservoir. In repairing the leak we endeavored to design it in such a way as to overcome the destructive effect of freezing and thawing. Here is what we did:

1. Concrete was superimposed on the stone steps of the sluice and a cover slab erected to form a continuous sloping surface, thus eliminating the direct thrust caused by the expanson of the ice and by the rise and fall of the ice surface against the top portion of the sluice.
2. The stone granite walls of the gate house were removed to an average depth of six feet below the floor level (below this the foundation was in good condition) and a heavy reinforced concrete wall was installed.

The project, started in the fall, was completed in mid-winter. As soon as the foundation walls were finished, the work was housed and heat provided for the erection of the superstructure of the gate house.



The manner in which the stone steps of the sluice were covered with concrete to prevent the formation of ice is illustrated by this diagram.

Municipal Communications Now and to Be

Up to the Minute Reports from Municipal Signal Specialists at the 49th Convention of the International Municipal Signal Association

***Saving the precious first minutes**
***Municipal radio**
***Automatic electrical protection**
***Flexible traffic signals**
***Stand-by power and batteries**
***Electric cables — solderless wiring**
***Wood poles scarce**
***Save lives with light**

THE International Municipal Signal Association's 49th Convention slogan, "Today's Work —Tomorrow's Plan," was thoroughly lived up to in rousing technical sessions lasting through October 2 to 5 in the Statler Hotel, Boston, Mass.

Saving the Precious First Minutes

The importance of designing plant and technical buildings to suit their equipment and not merely to attract the eye was stressed by George Ernest Robinson, Boston architect of 27 fire-alarm stations in New England, including Amesbury, Arlington, Brookline, Quincy, Revere, Stoughton, Uxbridge, of 6,400 to 75,000 populations. For protection, the separate fire alarm station should be adjacent to the main fire house, but should have its own heating plant.

The beginnings of the fire-alarm system and the police telegraph and telephone system, their development, present use in naval stations and war plants, and their future, were traced by President Frederick B. Philbrick, Chief Engineer Frank Bridges, and Edward J. McCarthy, all of the Gamewell Company, Newton Upper Falls, Mass. The depression and the war have put municipalities 15 years behind in maintenance and expansion, which now need to be planned in step with mayor-and-council understanding and approval. If the national debt is to be wiped out, real economy will be essential. This means that such wastes as fire and crime losses must be cut to minimum, which in turn means first-class fire and police equipment including the communications and alarms which give secrecy and efficiency to the force and save the waste of precious first minutes of a fire. The police telegraph for signals and records and the police telephone for two-way talk between station and the patrolman's beat, both basic since Chicago installed them in 1880, continue to be the first line of police communications. Yet only a few cities appreciate their full value. Boston does, and 600 citizens use Boston's police boxes each month. In fact, of 114 cities, 5 percent place this service at the disposal of citizens in need, 68 percent require motorcycle and radio-car officers to report through it, and 70 percent have the recall system of lights, horns or bells which summon the patrolman to his box.

Post-war fire and police systems already projected will require a million feet of cable for their installation. These cables must be attached to terminals, and, in the past, would require a vast amount of soldering. Solderless wiring devices for termination or interconnection of all types and sizes of conductors were described by J. O. Johnson, Chief Product Engineer, Aircraft Marine Products, Inc., Harrisburg, Pa. These devices have been intelligently improved and offer reductions in weight, bulk and complications. They have now been preinsulated and rendered corrosion-proof. Further ease of installation is provided by the AMP six-purpose tool combining wire cutter, insulation stripper, crimping notches, stud-size gauge, stripping gauge, and a plastic handle.

Automatic electric protection systems for buildings, including the Aero automatic fire alarm where there is no sprinkler, the Waterflow alarm attached to a sprinkler, the manual fire alarm as an adjunct to the above, the intrusion detection system and the sump supervisory service, were described by Francis C. Evans, Engineering Supervisor, American District Telegraph Company, New York. A modern application is to protect the serious and expensive fire hazard of air conditioning. With as much as 25 tons of air per minute entering such a system, only a very big fire, well along, would heat such a quantity and velocity of air sufficiently to sound an alarm. The solution is a smoke detector of the electric eye type which signals the central station, shuts down the fans and closes sectionalizing dampers. There are systems also for detecting dangerous pressure and temperature in transformer oil, and for supervising pumps for fire, water and sewage, and stand-by power sources.

By use of properly engineered combinations of automatic protection systems, it is possible to eliminate night attendants in plants while at the same time improving plant safety.

Radio

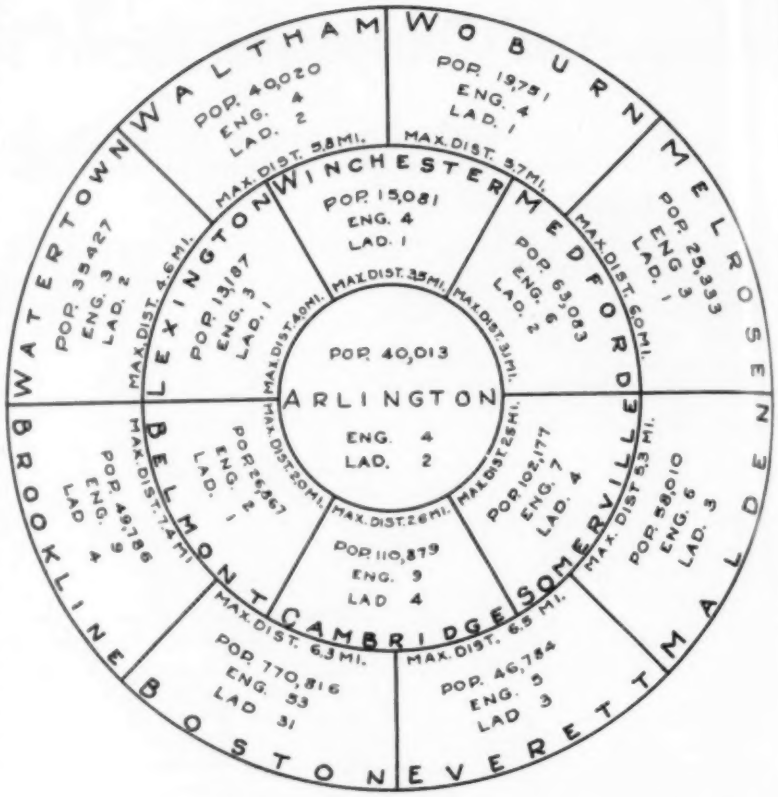
Though the frequency spectrum range is from 30 kilocycles to 30,000 megocycles, it is rapidly being filled, said G. P. Adair, Chief Engineer of the Federal Communications Commission. Already there are 45 radio services clamoring for allocations, and 21 of these consist of portable, mobile or emergency service communications.

The important research and analysis performed by the Radio Technical Planning Board was described by its Chairman, W. R. G. Baker, Vice-President, General Electric Company. The 800 persons connected with the Board work on 13 panels, of which Panel 13 deals with the emergency services. Its chairman is Dr. D. E. Noble, Research Division, Galvin Manufacturing Company, Chicago. The Board is now preparing for an imminent hearing to precede an FCC report to the State Department, so that the latter may proceed with international radio negotiations. It has therefore been necessary to risk decisions rather than to pursue the engineering approach. The latter, for Panel 13, would be first to consider allocations of all services in a metropolitan area and use the result as a pattern and as a gauge of the validity of future applications. The recognized band for emergency communications is 30 to 40 megocycles. It has been determined that 100 to 150 are satisfactory for municipal point-to-point radio but limited for car-to-car use.

The use of radio to control traffic on runways and in the air at the 3,000 airports federally authorized was described by Ludwig Arnson, President, Radio Receptor Company, New York. While the interlocking signal systems of the railroad type are not possible in the air, it is feasible to clear strata and direct planes to an unobstructed air stratum. Ground safety demands that maintenance, crash, fire and ambulance trucks be radio equipped.

The applications of induction radio

for controlling a single traffic lane or a 250- to 1,000-foot strip or covering an entire single community, and requiring no FCC license, were outlined by William S. Halstead and John A. Curtis of Halstead Traffic Communications Corporation, New York. For instance, a transmission line along George Washington Bridge from shore to shore furnished the field for instructing New York bound cars which turns to take in order to reach their destinations—with the information being picked up by the regular radio receivers of cars going to New Jersey. Traffic signals can be brought to the dashboard both as a light and as a distinctive tone (pleasing for green, sharper for red). Low-powered induction radio can be restricted to a community area, as it was in Rockville Centre, New York, in 1943. By it the fire department can turn on a house radio or break into a commercial program, with instructions to firemen. Thus it furnishes a form of managerial control. There are also street lighting and airport applications. This company has also developed a walky-talky device to sling over the back, with no protruding antenna to impede the fireman or betray the policeman.



TYPICAL MUTUAL AID GROUP ARRANGEMENT WITHIN THE BOSTON METROPOLITAN AREA

Properly arranged and organized, mutual fire aid or reciprocal service is second only to your own fire department, says Daniel B. Tierney, Fire Chief of Arlington, Mass., who discussed the subject from 33 years' experience, at the Boston, Mass., October convention of the International Municipal Signal Association. Following him, C. L. Donnelly, Assistant Chief, Fire Department, Lakewood, Ohio, narrated an outstanding case of Mid-West mutual aid. On August 4, 1944, fire broke out at a large scrap-rubber plant in Akron, Ohio. First Cayahoga Falls fire department was called, next the off shift, and then Fire Chief Frank C. Vernotzy declared an extreme emergency, bringing in fire departments from 14 miles distant; 55 firemen went to the hospital, 25 streams were laid. Cause of the fire's severity? Failure to use the fire-alarm box within the plant, said Chief Donnelly.

Flexible Traffic Signals

The traffic-signal session evoked by far the liveliest discussion. Ken Mackall, Manager, Traffic Division, Crouse-Hinds Company, showed graphically how the simple basic controller for a right-angle intersection can be built up with standard parts to a 78-circuit controller without departing from the original principle and specification. Standardization of design and construction has been accompanied by flexibility. For the isolated intersection there is a program timer permitting 10 changes a day or 70 changes a week, to match the average flows at different times of the day.

How should a city official start planning a signal system to handle the 18,000,000 new cars predicted by Paul G. Hoffman, stimulated by the cheaper cars promised by Henry Ford.

The great diversity between the states in traffic signal color meaning and signal usage will be an increasingly larger factor in accidents caused by tourists as driving restrictions are lifted and the public takes to the road again. H. A. Breeding, Application Engineer, Illuminating Laboratory, General Electric Co., Schenectady, N. Y., emphasized the importance of achieving standardization of signal color meanings and signal usage throughout the nation. Any public official who is planning to modernize or start a traffic control system in his town or city should first study the "Manual of Uniform Traffic Control Devices," latest edition 1942 (War Emergency Edition), of the Highway Traffic Research Board, 2101 Constitution Ave., Washington 25, D. C.: "Traffic Engineering Handbook" of the Institute of Traffic Engineers, 60 John Street, New York, N. Y., and its manuals on signals and controllers. Then, continued Mr. Breeding, the city official should build his system on the standards set forth in these publications, without trying to tailor the apparatus too closely to the particular problem at hand in order to avoid obsolescence which will probably overtake him in a year or two if he does try to fit the equipment too closely to the job.

Every municipality should form a traffic committee and make full use of the engineers of the traffic signal manufacturers, said M. Porosky, President, and W. F. Benson, Sales Manager, Eagle Signal Corporation, Moline, Ill. Gather the facts for one's own town. Where is the traffic, when, how heavy, which are the worst intersections; where does it come from and where does it go? The correct location of traffic signals is essential to the successful reduction of accidents. The central traffic-control system, as first used in Chicago, is coming. A similar system uses a master controller tied in with intersection controllers on the principal arteries to the business district. Equip isolated intersections with the demand type actuated control. Where justified, use pedestrian actuated control.

About pedestrian control, Mr. Mackall had discussed arrow and pedestrian signals and shown the broad arrow which is a mere disc at night, the A.S.A. standard which though distorted at night is still arrow-shaped, and the

I.T.E. standard which is more distinguishable at night at 200 feet.

Most of the ensuing discussion was about pedestrian signals which, though imperative in the future, are far from standard agreement now.

Stand-by Power

The security of a stand-by source of electric energy for supplying fire, police, traffic, radio, airport, beacon and hospital lines was emphasized by H. C. Morris, Factory Representative of D. W. Onan and Sons, Minneapolis, Minn.

One tried source of electric energy is the storage battery, said H. W. Beedle, Manager, Electric Storage Battery Company, Boston, and the war is using the full production of the industry in a hundred ways. When a city decides to purchase a battery, it should ask itself: What is it for, where is it to be used, how large should it be, of what design? Important factors are voltage variation, low maintenance cost and long service life and, especially, confidence in the manufacturer. Fully automatic charging is now available.

Having a battery, it must be properly maintained so that it will be ready to take over the line load in case of power failure. The exposed portions of the plates are inactive, reducing capacity and life, said H. D. Stanley, Chief Research Engineer, Storage Battery Division, Philco Corporation, Trenton, N. J. Hence, water must be added at six-month intervals. Tap water should be analyzed. A trace of iron runs back and forth between positive and negative plates, discharging the battery. Theoretically, acid need never be added, as it is lost only by spilling and excessive charging. There should be an equalizing charge every two months. New alloys, oxides, and grid design are in the offing, to reduce self-discharge and get out the current with least loss in voltage.

R. D. Evans, Technical Manager, Hazard Insulated Wire Works, Division of The Okonite Company, Wilkes-Barre, Pa., rapidly traced the modern epochs of cable development, vulcanization without sulphur in 1930; IMSA's adoption of this insulation for traffic and fire-alarm in 1932; Buna rubbers in 1940; and within two years the changeover to synthetics without loss in production volume. Confidence in and user-acceptance of these synthetic insulations have been strengthened by speed-up laboratory tests of these new cables' resistance to deterioration by sunlight, ozone, heat, and oxidation. These tests have also been supplemented by proving-ground tests where cables are installed and operated under actual service conditions with both load and voltage. This Hazard proving ground, established in 1937, tested underground cables in different kinds of soil such as soft-coal cinders, decayed organic matter, manhole wastes, and alkaline sand. The test results are checked by Electrical Testing Laboratories. Overhead cables are also tested under voltage, without current, for d.-c. insulation resistance, capacity, etc.

Sixty percent of underground conductor failures, said L. A. Gray, Test Engineer, Simplex Wire and Cable Company, Boston, are caused by condensation inside the fire-alarm boxes and traffic controllers. The moisture follows down to the conduit by way of the 90-degree bend. Overhead cable fails from joints not filled, ring wear, and crystallization of lead owing to the messenger slapping the rings.

Wood Poles Scarce

With inherently rot-resistant chestnut gone, and other durable species, such as cedar, difficult to obtain because of wartime conditions, pole users are turning more to the pine family, particularly southern pipe and lodgepole pine, made durable by treatment, said R. H. Colley, Timber Products Engineer, Bell Telephone Laboratories. He urged that consumers purchase their poles under standard material and treatment specifications containing no special requirements. It even may be desirable today to accept poles with minor deviations from specifications provided the utility of the poles is not impaired. He emphasized the need for rational use of pole timbers and the desirablility of avoiding excessive use of poles of the so-called "popular sizes." Real shortages in some of these sizes do exist. An immediate question from the floor was whether or not there were concrete or metal poles which would serve. Dr. Colley said that sectional, web, and tubular steel poles might serve but the initial cost and the cost for upkeep may be too high for wood pole users at the present time, at least.

Dr. Colley suggested that all poles, such as chestnuts and cedars, that in years past have been placed in line untreated, should be given a ground-line treatment at the time of routine inspection. In this treatment, one and one-half gallons of creosote and one pound of sodium fluoride are applied to the vulnerable ground line section. A proprietary compound known as Osmoplastic has also been found to be an effective ground-line preservative. Cost of ground-line treatments vary from $1 per pole, when carried out in conjunction with routine inspection, up to $3 per pole on a spot treatment basis.

Dr. Colley was asked the situation with respect to wood duct. He answered that at the present time this type of duct, properly treated and adequately cured, is difficult to buy in quantity. He stated that it will be necessary in many cases to use Fiber Conduit and, for special purposes, Transite Conduit as substitutes.

Save Lives with Light

Post-war plans and needs for modern street-lighting equipment total $250,000,000, said A. F. Dickerson, Manager Lighting Division, General Electric Company, Schnectady, who at this informative convention was made an honorary life member of the Association. The dangerous traffic streets constitute only 10 percent of a town's mileage and should be lighted first. This work can be started now on your most dangerous street with a new installation costing not more than $10,000 as recently permitted, without priorities, by the War Production Board. The work can be financed by a budget appropriation, a small percentage of the gasoline tax which the state returns to the town, by reduction in insurance rates, or by parking-meter revenues.

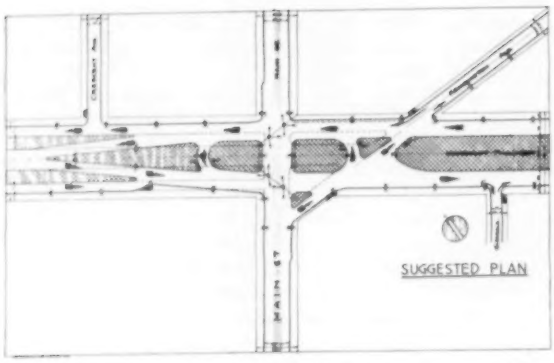
Detroit brought down its night-to-day fatality ratio from 7.3:1 to 1.4:1, and has set aside $1,500,000 for extension of traffic safety lighting. On 10 miles of Hartford's streets, 32 pedestrians were killed in the 3½ years preceding relighting of these streets, and one killed in the 3½ years after relighting. The problem is solved by 0.8 footcandle of illumination on city streets.

The illumination economics of the new scientific outdoor lighting equipment were outlined by E. B. Karns, Street, Aviation and Marine Lighting Application, Westinghouse Electric & Manufacturing Company, Cleveland, Ohio, who advocated high mounting heights and reflection, refraction and shielding in the luminaire, thereby reducing glare and conserving light by placing it onto the pavement. Not only should dangerous streets in towns be lighted or relighted, but so should highway intersections and interchanges as well. Such new lighting installed as soon as possible would do much to sell the driving and walking public on modern street lighting.

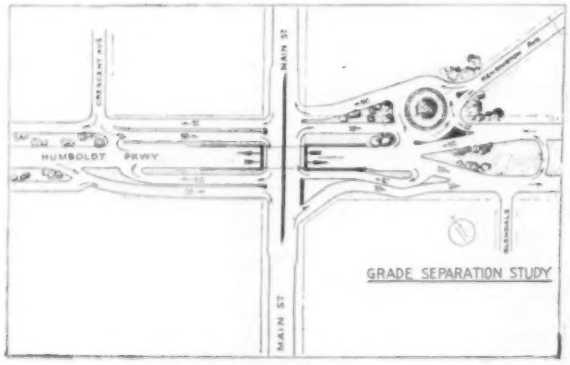
For newly elected officers see page 127 of this issue. George Booth, Chief Engineer of the National Board of Fire Underwriters, was made an honorary life member.

Major Intersections Redesigned for Post-War Buffalo

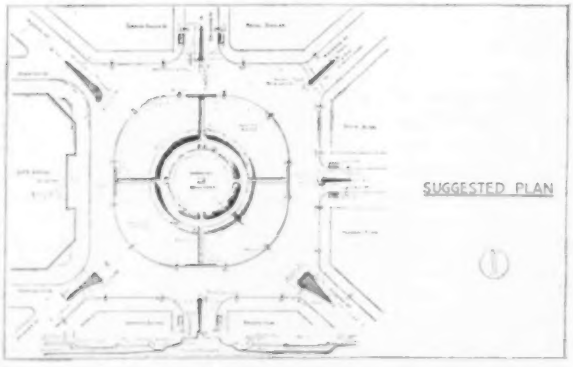
By HENRY W. OSBORNE
Traffic Advisor, Board of Safety
Buffalo, New York



Main Street and Humboldt Blvd. Vehicular conflicts would be reduced by rechannelization to encourage clean-cut movements. Increased street lighting is proposed for night driving. Dotted lines show present island locations.

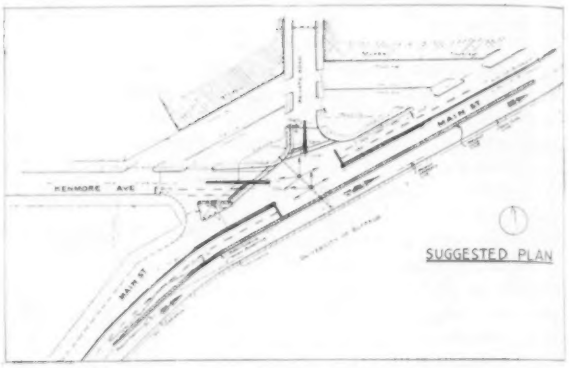


Main Street and Humboldt Blvd. An alternate plan calls for Humboldt to underpass Main, and for a rotary at Kensington intersection (upper right) with adjustments in connecting driveways.

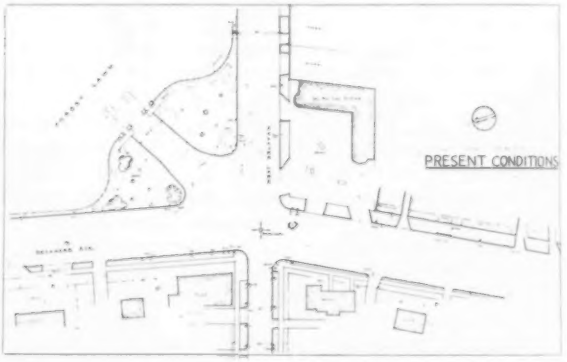


Niagara Square. Under present conditions, signal lights are used on two sides of the Square to permit pedestrian crossings, and with pedestrians actually crossing at every point around the Square. Sketch shows four proposed pedestrian tunnels, with seven entrance points on the north, south, east, and west sides. Signals would thus be eliminated and traffic expedited. Barriers would replace sidewalks on outer sides of the Square, to make for pedestrian safety.

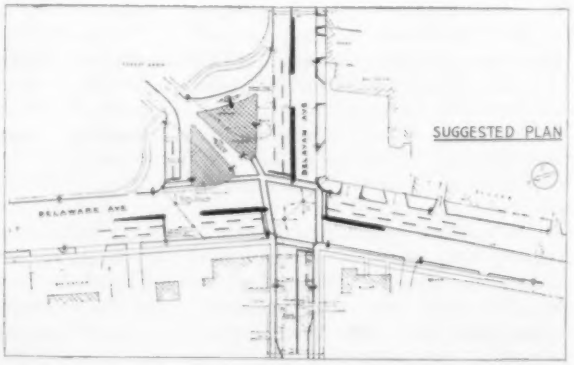
RIGHT—*Proposed traffic islands, making for orderly vehicular movement and giving safety refuge to pedestrians crossing street. Vehicular-actuated traffic lights at the cemetery exit driveway would meet left-turn problem of those vehicles.*



Kenmore and Main Streets. Street widening would provide a special east-bound traffic route (lower lane) free of any traffic controls. Two-way traffic flow in upper portion of street is expedited by traffic islands. Dotted lines show existing curbs.



Delaware and Delavan Streets showing present conditions. Entrance to Forest Lawn Cemetery creates confusion. Pedestrian problems are acute since this is a major transfer point for four bus lines.



LETTERS TO THE EDITOR

How Denver Got Its New Housing Code

To the Editor of THE AMERICAN CITY:

Your readers may be interested in the procedure on the study and development of Denver's new housing code, enactment of which you noted briefly in your October issue.

Denver does not have large slum areas such as are to be found in other cities; but we have our very fair share of substandard units. The real property survey of 1939 identified out of a total of 60,461 dwelling units 23,595 physically substandard. Since such structures are largely scattered, they constitute a considerable problem in urban replanning.

The Denver building code, while in good shape and well administered, was not sufficiently pointed towards the problems of substandard housing to enable the Building Inspector to require repairs or to close a substandard unit without weeks and possibly months of litigation. Therefore this spring Mayor Ben F. Stapleton authorized Frank L. Hays, Assistant City Attorney; L. D. Webber, Chief Building Inspector; Fred W. Ameter, Secretary of the Board of Adjustment-Zoning; and the Planning Director, to study means of overcoming this difficulty through the preparation of a code designed specifically to assist in the identification of substandard conditions and to provide legal means of proceeding against such conditions.

This small committee contacted every city where housing codes and ordinances have been prepared or in preparation and made, I believe, as thorough a study of procedure as possible. A tentative draft of a code was prepared, which was given considerable study by the Denver City Council and public hearings were held on it. The Denver Real Estate Exchange and the Denver Chamber of Commerce were highly cooperative. They established a joint committee to study this code with us and advise the city as to various administrative problems which might arise from the original draft. Several meetings were held in which nothing but the most cordial assistance can be recorded and we are very proud of the fact that the code went through, as it did, as a cooperative venture with the fullest support of Denver citizens and officials.

Further Restrictions Needed

The code itself is by no manner of means satisfactory to all of us, in detail; although we believe that the general principle is good and that it will stand up in practice. There are a number of provisions of the code which we hope to modify after the war and when Denver's housing shortage is lessened. For instance, we are all in agreement that the section having to do with the number of families and individuals per toilet is too lax. Instead of three families or twelve persons per toilet, we hope to amend the ordinance as soon as possible to limit this section to one family per toilet and not over a total of eight persons.

We are also not satisfied with the minimum room size, which should probably be 90 square feet rather than 70. Neither are we satisfied with our occupancy standard, but we believe the code itself, with its administrative officers and procedure, is an excellent first step in our post-war redevelopment.

CARL FEISS
Planning Director
City of Denver

Garages and Parking Facilities

To the Editor of THE AMERICAN CITY:

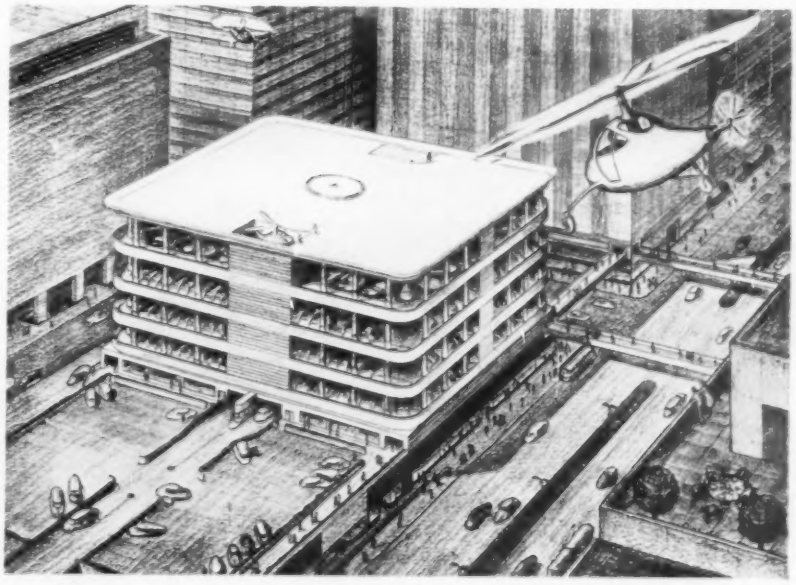
San Francisco's Union Square Garage, described in Frank J. Taylor's interesting article in your October issue, caters to the so-called "luxury" trade. This is entirely satisfactory, considering its location, for the Square is within easy walking distance of most of the luxury shops in San Francisco. The garage is very well managed, and visitors to the City do not seem to object to the schedule of charges for parking and service.

The problem of congestion, however, remains largely unsolved. San Francisco is a terminal city, and its garages and parking facilities are most inadequate. The Union Square Garage has done a great deal to relieve the demand for space on the streets and has permitted the elimination of parking entirely on certain thoroughfares. It is evident, however, that the street system cannot accommodate the volume of motor traffic expected after the war. The limited number of garages and parking lots cannot possibly meet the demand. Our city planning program, therefore, must include several public and quasi-public projects designed to meet this critical need.

We are continuing surveys and investigations at the present time looking toward the development of a connected series of open deck parking facilities. Preliminary studies indicate that structures of this type can be built and financed in large part with private capital. If the designs will permit operators to park their own cars, as they do on the public streets, the parking fees may be of the order of 10 or 15 cents for two, three or four hours. We are differentiating between these institutions and others now existing by calling them parking facilities rather than garages. The word garage, it seems to me, should be restricted to those places which provide uniformed attendants and various forms of service.

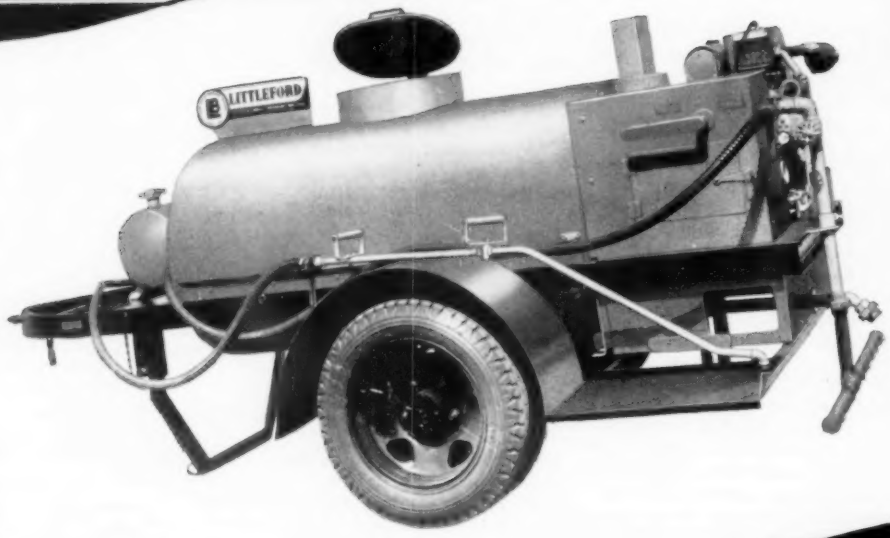
The parking facilities that we had in mind will not be effective, however, unless located and planned as a part of the circulatory system. The state is in general charge of the planning for a system of freeways in the region, some of which will come into the heart of the city. Coordition in the planning of these new motorways and the projected parking facilities, however, is difficult to secure. The state is building pumps (freeways) which will pour large volumes of motor traffic into congested areas but has no interest in the buckets (parking facilities) which someone must put under these pumps.

L. DEMING TILTON
Director of Planning
City and County of San Francisco



Type of open-deck parking facilities with helicopter landing roof proposed for San Francisco.

No. 101 UTILITY SPRAY TANK



A COMBINATION OF THREE UNITS

When it comes to spraying Asphalt, Tar, Emulsion, or Road Oil, the Littleford No. 101 has no equal. Being a combination of three units, the No. 101 can handle small application jobs with its Spray Bar, take care of patch work with the Hand Spray Attachment, and do Crack Filling and Pouring Pot Work by having a pouring pot outlet.

For modern Road Construction and Maintenance, this *Utility Unit* should be first on the list of new equipment for postwar. Not only is it a combination of 3 units, but it cuts the operating time by being engineered for simplicity and efficiency.

LB LITTLEFORD

BLACK TOP ROAD MAINTENANCE EQUIPMENT SINCE 1900

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500 East Pearl St. Cincinnati, 2, Ohio

Your Stake in Community Planning

No one, remembering the building boom that followed World War I, wants a repetition of the evils, social and fiscal, generated in that dizzy epoch. Shoddy construction, wild-cat finance, and haphazard planning, must be definitely ruled out of the coming Era of Construction. Not for "idealistic" reasons, either. It will be more profitable if we do the job the "planned" way. In fact, it can't be done profitably any other way.

The magnitude of the problem calls for the combined operations of all members of the community. Banker and builder, architect and landlord, homeowner and municipal official, must all join forces in long-range, over-all community planning. Without such planning, we shall slip back disastrously into the hit-or-miss construction of wasteful and unattractive neighborhoods, doomed to premature blight.

—From "Your Stake in Community Planning."

TWENTIETH century planning, if it is to have validity, must increasingly become an expression of democratic needs and the techniques of the power age!

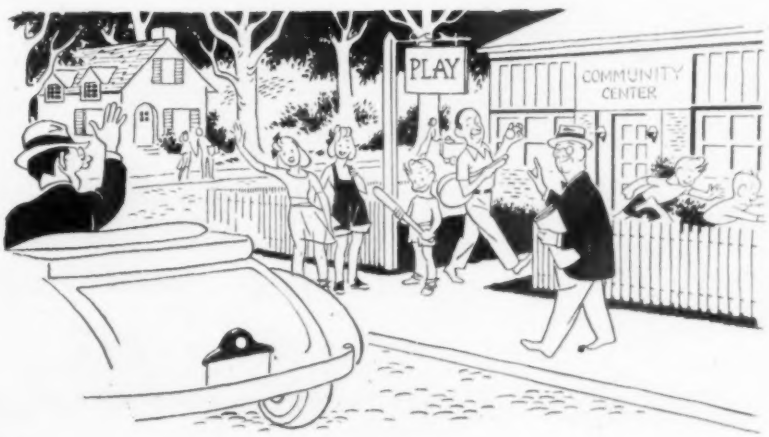
In contrast to the "no plan" method of city growth with its lack of regard for individual and community stability, "Your Stake in Community Planning," a 28-page pamphlet just issued by the National Committee on Housing, recommends as criteria for planning liveable communities the following essential considerations: (1) How large should a neighborhood be? (2) Income range, (3) Range of dwelling types, (4) Means of livelihood, (5) Business and shopping, (6) Recreation, (7) Community center, (8) Education, health and child-care, (9) Appearance.

What are the steps to be taken in making a master-plan? Concise and authoritative answers are given in the closing page of this attractive pamphlet.

REPRODUCE THESE SKETCHES

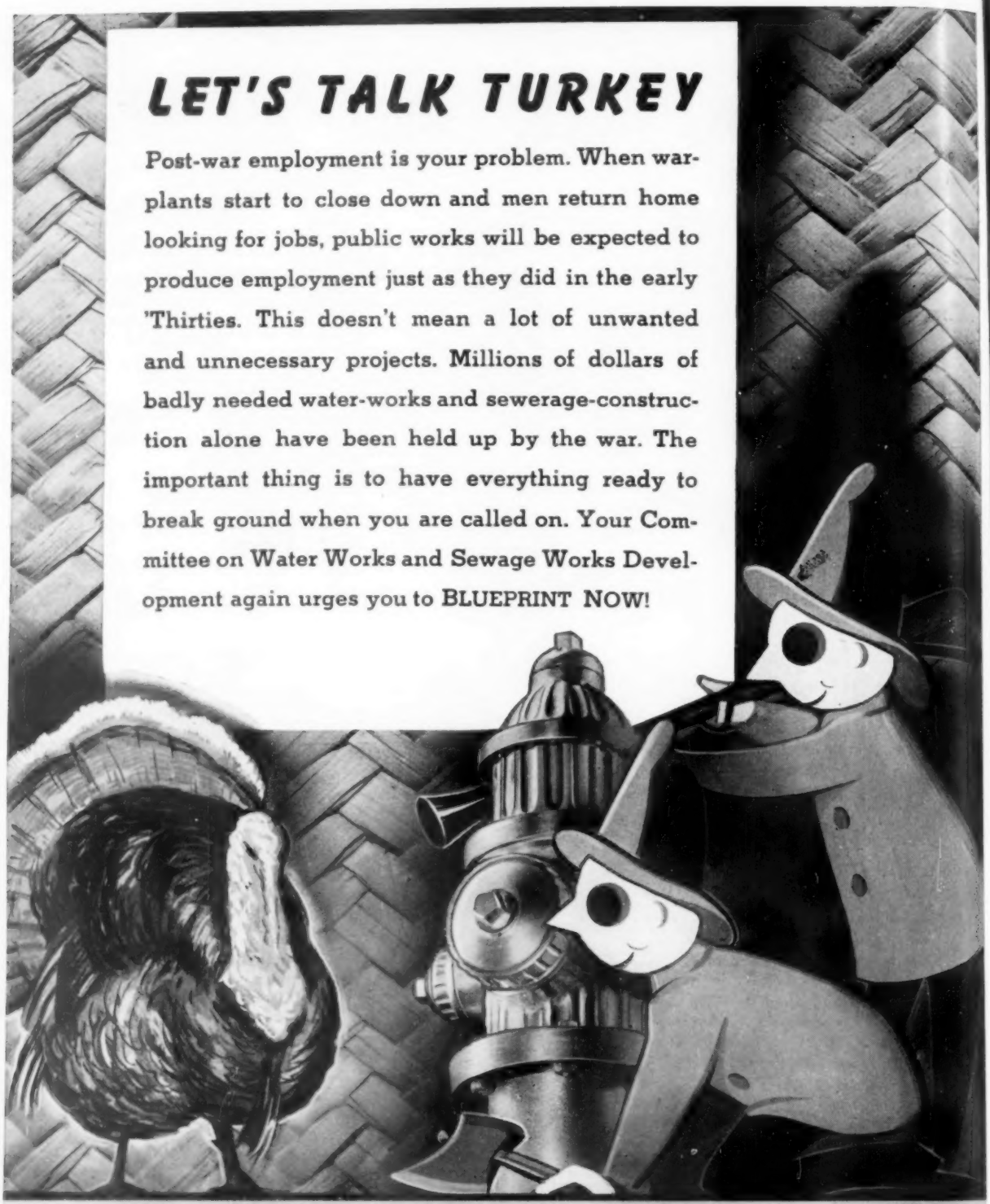
If You Wish, for Local Use

The National Committee on Housing, 512 Fifth Avenue, New York 18, N. Y., has authorized THE AMERICAN CITY to tell its readers that they may feel free to reproduce these sketches, or any others in the pamphlet, "Your Stake in Community Planning," for local use, without charge.



LET'S TALK TURKEY

Post-war employment is your problem. When war-plants start to close down and men return home looking for jobs, public works will be expected to produce employment just as they did in the early 'Thirties. This doesn't mean a lot of unwanted and unnecessary projects. Millions of dollars of badly needed water-works and sewerage-construction alone have been held up by the war. The important thing is to have everything ready to break ground when you are called on. Your Committee on Water Works and Sewage Works Development again urges you to BLUEPRINT NOW!



MATHEWS HYDRANTS

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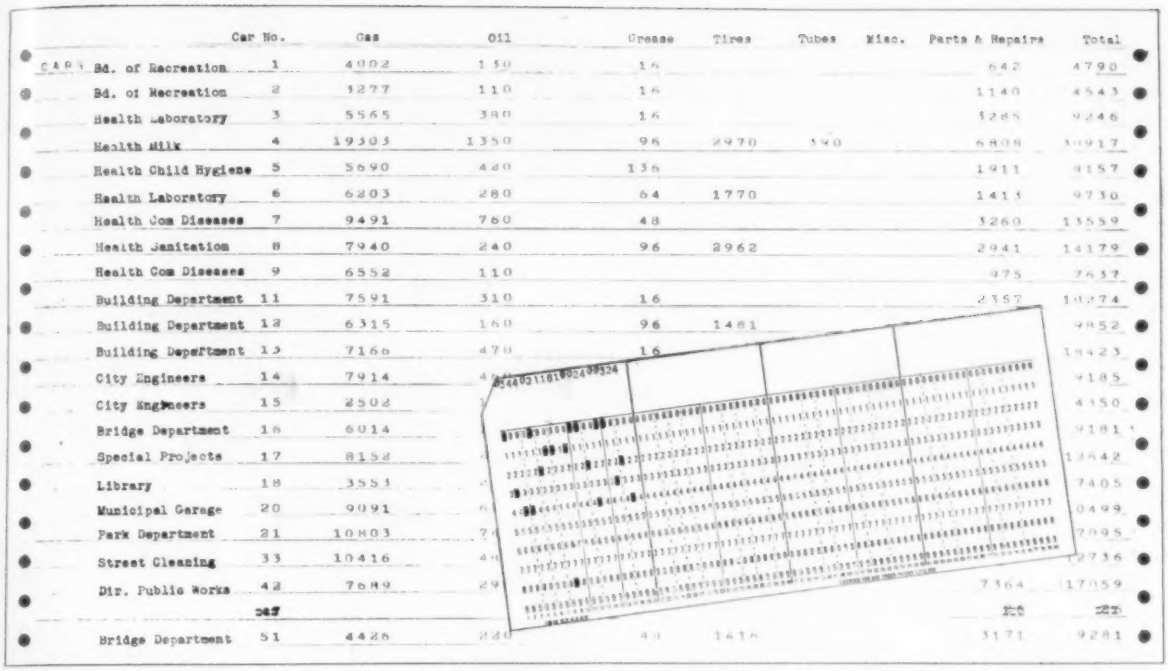
MANUFACTURERS OF SAND SPUN PIPE (CENTRIFUGALLY CAST IN SAND MOLDS) AND R. D. WOOD GATE VALVES



	Car No.	Gas	Oil	Grease	Tires	Tubes	Misc.	Parts & Repairs	Total
CARS Bd. of Recreation	1	4002	150	16				642	4790
Bd. of Recreation	2	1277	110	16				1140	4543
Health Laboratory	3	5565	380	16				1285	9246
Health Milk	4	19303	1350	96	2970	590		6808	30917
Health Child Hygiene	5	5690	440	136				1911	8157
Health Laboratory	6	6203	280	64	1770			1413	9730
Health Com Diseases	7	9491	760	48				5260	15559
Health Sanitation	8	7940	240	96	2962			2941	14179
Health Com Diseases	9	6552	110					975	7637
Building Department	11	7591	310	16				2357	10274
Building Department	12	6315	160	96	1481				9852
Building Department	13	7160	470	16					13423
City Engineers	14	7914							9185
City Engineers	15	2502							4350
Bridge Department	16	6014							9181
Special Projects	17	8152							13642
Library	18	3553							7405
Municipal Garage	20	9091							10499
Park Department	21	10803							17095
Street Cleaning	33	10416							12736
Dir. Public Works	42	7689						7364	17059
	247							[illegible]	225
Bridge Department	51	4426	240	48	1416			3171	9281

The small tabulating card is punched giving information on daily and weekly garage reports in Bridgeport. The larger sheet is the motor vehicle report form on which are accumulated all costs in connection with any city-owned vehicle.

Accounting for Automotive Equipment

A Method that furnishes ODT figures as well as regular routine control

By PERRY W. RODMAN
City Comptroller
Bridgeport, Conn.

ALTOUGH the Office of Defense Transportation requires detailed reporting on the use of automotive equipment, such reporting could not be considered as part of our regular accounting analysis for the Municipal Garage. For the present, however, it is an integral part, though it can be discontinued at any time, leaving the regular garage reporting intact.

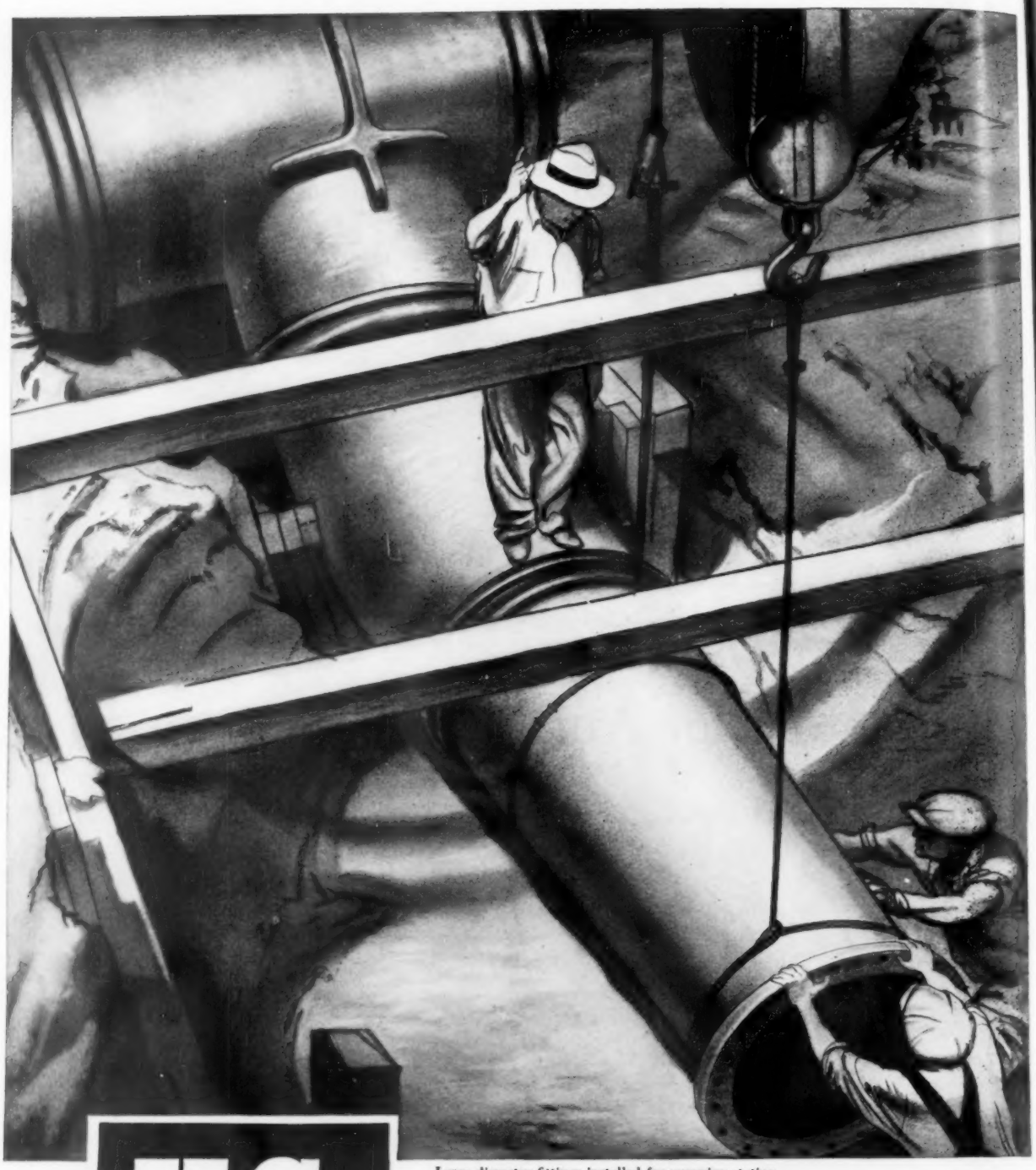
We have centralized in the Municipal Garage, complete supervision of the use of all the automotive equipment of the city, and it includes manpower as well as equipment. This one control handles 262 pieces of equipment comprising ambulances, patrol wagons, compressors, graders, cement mixers, gas shovels, gas rollers, pusher tractors, sand loaders, snow loaders, sprayers, stairway rollers, sewer trench digger, and, excluding fire apparatus, a complete repair shop is operated. Gas and oil supplies center in the garage. All miscellaneous equipment to be hired is hired through the garage agency. Financial and statistical control is vested in the Comptroller of the city of Bridgeport.

The details of garage operation is a story in itself. The illustration indicates the end results of these records as produced by tabulating cards. The information shown is taken piecemeal from daily and weekly garage reports to the Comptroller's Office. Tabulating cards are punched with this information, sorted by car number, and the exact expense for the period is then allocated to the car number and to the department owning the car. The automobile report form is a ledger card set up to accumulate all costs in connection with any vehicle. Prior to the use of tabulating equipment all this information had to be posted by hand after much manual analysis and summation. Almost invariably this information was lagging way behind and it was impossible to get up-to-date figures except by asking the garage. It is a simple matter now to lay the monthly reports together and add across or to take the accumulation from the Car Ledger cards. The time saved is very great.

The Office of Defense Transportation was, of course, very much interested in city operating of automotive equipment because of the large number of vehicles and items of equipment involved. ODT required reporting on their own form and it was up to us to revise our forms so that the information could be readily obtained and posted to ODT requirements.

The ease with which the standard punched card produced the official form for ODT, is a good example of the flexibility of tabulating machines on government operations.

A further adaptation has been recently made which involves the use of transfer posting. In its normal course of business the garage issues many requisitions for the multiplicity of small parts for repair and replacements that are needed. It was a problem to apportion these to the various vehicles or apparatus. This has been done by typing the transfer posting slip with information and description required and posting this to the car card that cumulating cost of repairs, gas, oil, etc.



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A Visitor Tells of Two City Hall Interviews

By PHILLIPS BRADLEY

A RECENT trip across the country led to the doors of City Halls and the opportunity to talk with executives who are making notable records in their communities. The story of what is going on in two cities very different in type provides a very human picture of contrasts in activity—and similarity in objective.

San Francisco and Its Mayor

San Francisco is one of the smallest in area—only 44 square miles—of any of our great cities. It is also one of the most diverse in its population, a "melting-pot" of the peoples of Asia as well as of Europe and the Americas. Life in San Francisco is colorful and dynamic, business and pleasure both run in high gear.

San Francisco's government is complex; city and country consolidation in offices and functions has not developed a thoroughgoing integration of activities. It is centered in an impressive city hall; the dome is said to rise higher than that of the Capitol in Washington. Under the dome sits one of the nation's outstanding mayors.

Mayor Roger D. Lapham does not fit the pattern of the typical politician in the public mind. One of the city's leading business men—chairman of the board of American Hawaiian Steamship Company and a leader in unofficial civic service—he could hardly be classified as an aspirant for public office. A group of citizens of all parties and faiths prevailed on him to run—in a four-cornered race against candidates all much better known when the race began. He resigned the only public office he had ever held (as a member of the National War Labor Board) to make the race. He polled 93,000 votes, one of the highest pluralities in San Francisco's history.

A major reason was, no doubt, the kind of campaign he conducted. He spoke to every sort of group, however small—or large. He promised nothing beyond a pledge to apply strict business methods to the solution of the city's urgent problems such as transportation and housing. He made one other pledge—that he would accept the office of mayor for one term only.

REDWOOD EMPIRE ASSOCIATION PHOTO

San Francisco's City Hall with dome 10 feet higher than that of the Nation's Capitol

Perhaps the very novelty of such an attitude toward a political career is one reason he rolled up such a plurality.

Mayor Lapham has been in office only nine months, but in this brief period quite a few changes in the "politics" and administration of City Hall have occurred. First of all, his detachment from organization control or the desire to strengthen a personal political machine has made it possible to make many appointments on the basis of merit rather than of strategy. He has put into many administrative posts men and women whose only interest in the jobs they hold is to do them well. The tone of administration in San Francisco is already quite different, from the political viewpoint, from that of recent years.

And the citizens seem to like it. Mayor Lapham campaigned personally for the purchase of the Market Street Railway, a private transportation system—a proposal that had been voted down in five previous referenda. He recommended a tax rate of 4.67, the highest in city-county history; public approval was widespread and positive. He has supported long-range planning for the city's future growth. A program of public works, plans for which have recently been submitted to the tune of over $130,000,000, is on his desk at the moment.

In terms of administration, he has introduced some interesting reforms in City Hall practices. A large number of fiduciary officers have been placed under bond for the first time. Contract and purchase procedures are on a more businesslike basis. "Influence" in contract-letting is now restricted to the influence of proved principles of efficient action, not of the "right" people. Under the able direction of the Chief Administrative Officer, Thomas A. Brooks, himself a non-political permanent official, the city's administrative services are coming into their own—in responsibility and performance.

Mayor Lapham is making San Francisco one of our best administered large cities. A rugged individualist, square-shouldered and firm-jawed, but with a winning smile and friendly attitude, his office door is open to every citizen of the city. The results of the next three years of his administration will be worth watching—as an index of what courage and ability can accomplish in any City Hall.

Boulder and Its City Manager

A very different kind of city—and City Hall—is Boulder, Colorado. Boulder's municipal building is a couple of old stores on the city's main street, thrown together for an office as unpretentious as San Francisco's City Hall is ornate. City Manager H. C. McClintock, who has served the community for over 20 years, worked in most of its departments before he became City Manager. He knows the community—its people and its problems—as intimately as a book.

Boulder is Colorado's university town. The state university is the largest industry; the city itself is set in an agricultural terrain under the foothills of the Rockies. The water supply is drawn from a glacier close to the Great Divide and piped down from storage basins 20-odd miles away.

Boulder, too, is planning for the post-war period. Specific plans for housing, highways, education, and rural improvements are being blueprinted. The City Manager believes it pays to prepare—even in a community of 12,000.

(Concluded on page 135)

HARDIE PUMPS & GUNS
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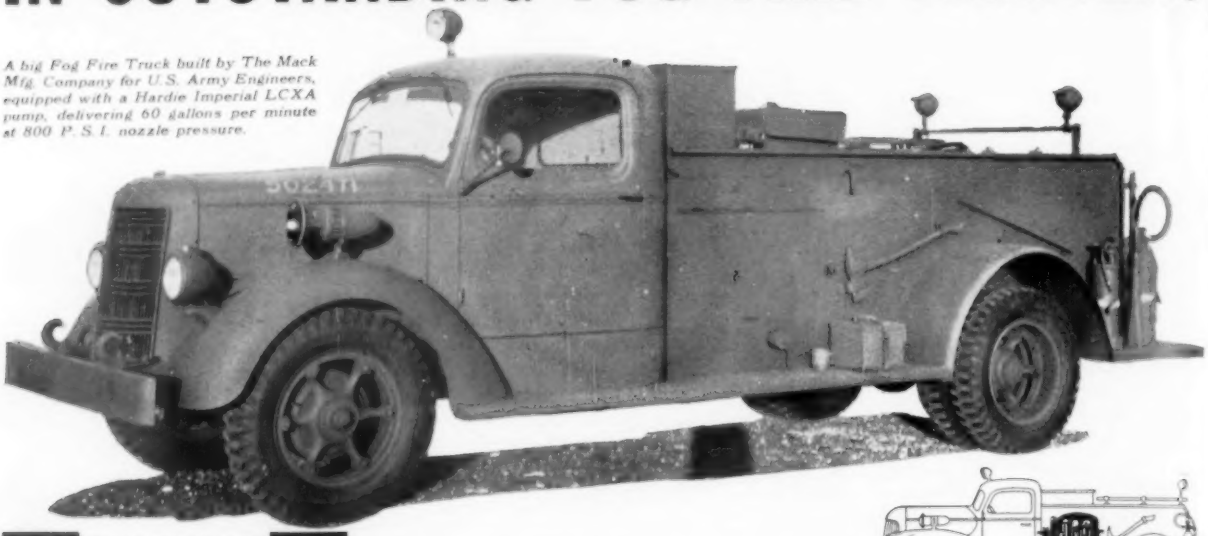
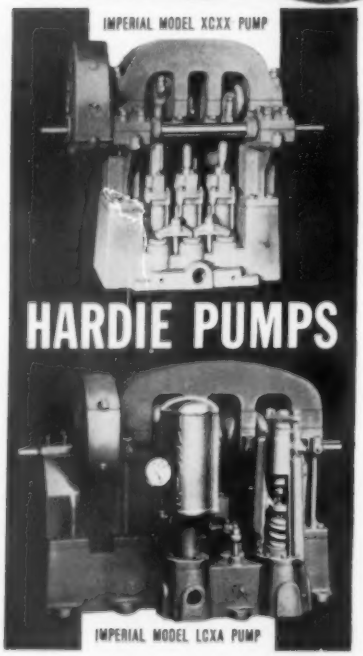
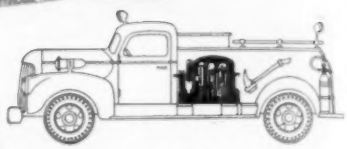
A big Fog Fire Truck built by The Mack Mfg. Company for U.S. Army Engineers, equipped with a Hardie Imperial LCXA pump, delivering 60 gallons per minute at 800 P. S. I. nozzle pressure.







● Long established, fully responsible engineers and manufacturers of Fog Fire Fighting Units know from experience how to judge the high pressure pump to be specified in such equipment. Hardie High Pressure Pumps are found in the Fog Fire Fighters built for U.S. Army Engineers by The Mack Manufacturing Company of Long Island City, N.Y., General Fire Truck Corporation of Detroit, Michigan, General Pacific Corporation, Los Angeles, California, Seagraves Company, Columbus, Ohio, in the crash trucks built for Pan-American Airways by Edgar Road Tank Works, Linden, New Jersey, and in Fog Fire Fighters built by other specialized fire equipment manufacturers.

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High Pressure PUMPS AND FOG GUNS for Fog Fire Fighters

Indiana's Water Supply Program

See also pages 9 and 129 of this issue.

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A Modern City's Transportation Needs

By CHARLES GORDON
Managing Director
American Transit Association
New York

THE current interest in planning which is evident in many fields of endeavor, is probably attributable to the feeling that, if we had done a better job of looking ahead 25 years ago, the world would not have fallen again into the shambles from which we are now trying to extricate it.

But there is danger that in our new enthusiasm for planning, we may make the grave error of assuming that the mere making of plans is in itself a good thing. It is important to bear in mind that there can be bad plans as well as good plans; that a prerequisite to making good plans is a broad basic knowledge and understanding of accumulated experience in a particular field.

Unless the planner is thus equipped, it is too much to expect that his plans —regardless of how desirable their objectives—will work when subjected to practical test. As a prominent industrialist said some years ago, "There is as much difference between planning improvements and making improvements, as there is between feeling good and being good."

Cities are Exploding

Why all the present great interest in community planning? Simply because, at long last, many people are beginning to realize that something is radically wrong with our cities; that the situation has been getting steadily worse for a considerable time; and that unless steps are taken at once to reverse in the immediate post-war period when building is resumed, the trends which had been gaining momentum for a number of years before the outbreak of war, our American cities will be destroyed from within just as effectively—if not so spectacularly—as bombing is destroying the cities of Europe and Asia.

American cities are the nuclei or nerve centers of our complex economic mechanism. Consequently, instability and disorder in urban property development has a very real national significance. In addition, most major social problems are encountered in cities. The environment afforded city dwellers is therefore of profound importance to the welfare of our country. Cities all over America are figuratively exploding. They are spreading out in random fashion with no apparent plan of control, over much larger areas than seems necessary or rational. While much vacant land lies totally undeveloped within city boundaries, a widening belt of built up property, radiating from the business centers has been deteriorating into blighted districts.

Paralleling these disturbing trends, the difficulties and inconveniences of local travel in cities have increased rapidly.

We need to have a better understanding of the causes of present city instability if plans for the future are to be effective in bringing about orderly redevelopment of blighted areas and improved living conditions for urban dwellers. Harland Bartholomew has furnished a key to the problem by pointing out that the three major stages in the growth of American cities are closely linked with the development of local transportation facilities.

City Growth Linked to Transportation

Before 1880 the area of cities was limited by the distances which could be traversed in a reasonable time between home and work or business, on foot, on horseback or in animal-drawn vehicles. In this period, cities were limited to an area extending about two or two and a half miles from the center.

Between 1880 and 1910, the second stage, introduction of the electric street car extended the practicable radius of population distribution, and hence of potential urban development, to a distance of approximately five miles. Simultaneously, during this period, industrialization and a great influx of immigration caused cities to grow rapidly in both population and size. This magic combination of population increase and improved transportation, set up centrifugal and centripetal forces which were far reaching in their effects. Property values at the centers of cities rose rapidly, and the business area spread to accommodate a growing trade area. People moved further out as transportation was improved, and the sites of old homes thus abandoned were converted to business use with profit to the owner.

Cities grew so rapidly over so long a period of time, that the idea became firmly established that the resulting rise in city property values would continue indefinitely.

Automobile Produced Revolution

Thus, when a new and radical product of our industrial age appeared, which was to have a most profound effect upon the whole pattern of urban living, its significance was scarcely noted and its full influence is not yet generally recognized—even after some thirty years. This was the automobile.

Its rapid development soon revolutionized all former concepts of transportation limits and acceptable standards. The potential area of urbanization jumped from its former five-mile radius to fifteen or twenty miles. It needs but a knowledge of the fact that the area of a circle is proportional to the square of its radius, to grasp the effect of this change on urban property stability.

The potential area of cities increased during a short period, from approximately 75 square miles to about 700 square miles, or almost 1,000 percent. And at about the same time, the curve of population increase in cities was flattening out; in fact, just prior to the outbreak of war it had actually reversed itself in some locations, resulting in a net loss of urban population. Thus, while on the one hand the potential area of urbanization was multiplied by ten, the flow of population into cities slackened, and in some cases actually reversed.

It was quite natural, that as automobiles were perfected and reduced in price, a steady drift of people set in from older residential areas into the wide belt of surrounding undeveloped and relatively low cost land which was now accessible for home sites. So, the decentralizing process started. At the same time, increased use of automobiles, filled to capacity the former street system.

Made Horrible Mess of Cities

To remedy intolerable traffic conditions, and to eliminate bottlenecks, many street widening projects were undertaken. These and other streets were designated as main traffic arteries. Traffic signal systems were introduced, and other measures adopted in a losing struggle to permit the inherent advantages of the speed, flexibility, and comfort of the automobile to be utilized. In a desperate effort to meet the situation, we cut ruthlessly through former quiet residential areas, without realizing the consequences to environment and living conditions.

Generally, we made a horrible mess of the whole situation. If there is any

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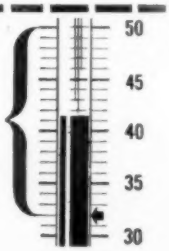

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about it, stand and reflect for a moment, while watching a group of children threading their way through modern city traffic on their way to school. It is easy to understand why mothers and fathers of young children grasp the first opportunity of a home in the suburbs, where they hope they may escape the hazards of city traffic to their children, and its noise and other nuisances to themselves. They are merely running away from the mistakes which have been made in dealing with the problems brought about by the widespread use of automobiles. What they seek is rather simple—a quiet and safe environment in which to live and to raise a family.

Can't Run Away From Problem

Unfortunately, without proper planning and control of development, decentralization does not assure desirable environment even in the outskirts. Many developments on the edges of cities lack proper fire and police protection—to say nothing of schools and the opportunity for healthy social and civic contact. There are slums of jerry built houses and shacks on the jerry-built houses and shacks on the tenements and abandoned homes near their centers.

Modern city planners seem to be tending more and more toward agreement on the general idea of re-planning metropolitan areas on a different concept than merely a central business and industrial core, surrounded by a more or less formless residential area, built up on a radiating or grid pattern of streets. Instead, they visualize a business district of limited extent, surrounded by a group of more or less self-contained satellite neighborhoods or communities, each having its own local schools, churches and shopping areas, and separated by liberal areas of open space to provide facilities for recreation, arteries for transportation, and protection against encroachment.

There is a great hope in the growth of this concept of modern city development. Note that there is ample area available to house the population of even the largest city, at moderate standards of density and at reasonable distances for ready accessibility to the heart of the area. But by no stretch of the imagination is there either enough space or enough resources to provide the facilities needed if the planning is to be done on the assumption that everyone will move about in private vehicles.

Local Transportation Needs Important

There is little difficulty in enlisting recognition of the need for fast, convenient and safe local transportation as such. But there is a very strong tendency to place far too much emphasis on providing new highways in urban areas, and to plunge into huge expenditures, without adequate consideration of readily available data regarding the limited capacity of such structures when used by private automobiles. Spectacular highway plans can be presented in futuristic panoramas that appeal to the eye and the imagination, for we all like to picture ourselves rolling down a great, broad highway in a luxurious car, escaping from the cares and restraints of a work-a-day world.

Accordingly, elaborate plans for the construction of great "super-highways," or "arterials" or "limited ways" in urban areas are being prepared, and are being advocated, on the ground that they will give access to the centers of cities, and will thus help to maintain property values and to remedy congestion and blight. In contrast, proposals for the improvement of public transit facilities by buses, trolley coaches, street cars or rapid transit lines, seem rather prosaic. Even the suggestion that plans for major urban highway projects should not be settled without taking into full consideration the opportunity of designing these structures so as to make them as useful as possible to those who ride in public vehicles, does not always meet with favor from highway enthusiasts.

War Demonstrated Importance of Public Transit

The war has demonstrated the importance of the function which is performed by the buses, trolley coaches, street cars and rapid transit lines in American cities. With little increased equipment they are this year carrying a traffic load double that of the depression year 1933. These carriers during 1943 transported a total of 22 billion riders. This is more than the equivalent of transporting every man, woman and child of every town of 25,000 population and above once every day of the year.

Visualize then the problem before us, if we attempt to provide facilities in cities, so that this local travel may ultimately all move in individual vehicles.

Here is a direct comparison. A lane of buses on an ordinary city street has a passenger capacity about 3½ times that of a lane of automobiles on an elevated highway. The capacity of a lane of street cars on a city street is about five times that of a lane of automobiles on an elevated highway. If the street cars are put into a subway or a reserved strip on an express highway, their capacity becomes 7½ times that of a lane of autos on the same highway; and a single lane of express rapid transit trains raises the figure to more than twenty times the capacity of the lane of automobiles.

It may be suggested that the public is not satisfied with the standards of comfort and convenience at present provided on urban public carriers. I have considerable sympathy with that view, and believe that much higher standards are desirable. Only then can public and private transportation stand in proper relation to each other in the public mind. Unfortunately, the policies of many cities in the past, in dealing with public transit problems, have had the effect of holding down the standard of service that could be provided at the levels of fares that the public is willing to pay.

Encourage Good Transit

It would be highly advantageous to modern cities to follow an opposite course, and to foster the improvement of public transit service in every possible way—even to subsidize it if necessary—to achieve the highest possible standard of convenience and comfort for public transit riders. Such a policy would be vastly more economical than to provide the highways for automobiles that are the only alternatives.

And so I say, there is the danger in our planning for tomorrow's cities of getting the cart before the horse; of providing the highways to give city dwellers access to the countryside before we provide the internal transportation systems essential to the very survival of the communities themselves. Unless this is recognized, we may find too late that we have merely expedited the process of destroying our cities as we know them today, and have distributed their population helter-skelter over the surrounding countryside. In such an eventuality, it is hard to visualize how any community can possibly carry the staggering tax burden, of providing over an area expanded ten-fold or more, the necessary municipal facilities and services of a modern urban community.

Perhaps much of this danger could be avoided if there were closer co-ordination of effort between local transit officials, highway departments, and community planning officials. Only recently has the interrelation of the activities of these three groups become fully apparent. Each can learn much from the other, to the great benefit of the community and the public. Close coordination and cooperation between them will do much to assure the adoption of sound policies for meeting a modern city's transportation needs.

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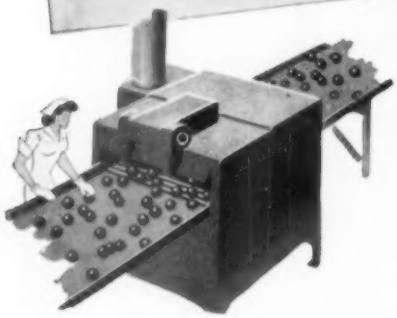

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BUY BONDS TO HELP WIN THE WAR . . . TO PREVENT DICTATORSHIP FROM INVADING OUR SHORES . . . TO KEEP SAFE OUR CONSTITUTIONAL FORM OF GOVERNMENT AND OUR BILL OF RIGHTS

A Program of Local Action for Post-War Housing

AMERICAN cities, as centers of democracy, should start moving now to clear the ground for a broad attack on their housing problems in the post-war era, Administrator John B. Blandford, Jr., of the National Housing Agency, told the annual convention of the American Municipal Association in Chicago on October 25.

Housing holds a central place in almost all plans for building a better and more productive America after the war, Mr. Blandford declared in putting forward a program of "action for housing." *Such a program, he stressed, is fundamentally one to be carried out by cities with only supplementary federal help to the extent that cities "need it and want it."*

While he said federal action is called for in "unwinding" the war housing program and aiding reconversion to peacetime home building, Mr. Blandford defined several fields in which local communities can and must act on their own initiative if a successful post-war housing effort is to be achieved.

The closest possible cooperation between cities and the NHA will be needed in working out the disposition of federally-owned war housing, he said.

An Immediate Job for the Cities

As one job which cities can do immediately, Mr. Blandford pointed to modernization of building codes and re-examination of zoning ordinances. Many building codes, he said, are obsolete and would act as a dead-weight on post-war home building.

Zoning ordinances, he continued, should be in harmony with the city's over-all plans for future growth and be effective in promoting the development of well-balanced neighborhoods, with the assurance of lasting values for home-owners and investors.

For effective planning by communities and private industry, cities must learn the facts on their own housing supply, he said. Cities need to know the condition of their present housing, how well it serves all income groups within their present population and what the gaps are in relation to future needs and future growth. The housing industry, he pointed out, also needs this information as the basis for intelligent market decisions.

Commissioner Blandford added that the NHA is currently "experimenting with techniques for assisting cities in establishing systems of housing market analysis, if they want such assistance."

Furthermore, he declared, cities must face up to the problems of their slum and blighted housing areas and of decent housing for families of very low incomes; cities should first identify their present sub-standard areas which are beyond the reach of rehabilitation and then appraise realistically what it would cost to assemble such land and re-use it as part of an over-all community plan.

Federal Aid Being Studied

"It is doubtful," he said, "that cities can meet the full cost of economic redevelopment of blighted land areas without federal aid in some form. The NHA is intensively studying this question."

No lasting solution to the problem of slum and blighted areas can be found without also solving the problem of decent shelter for families unable to pay more than slum rents for privately-owned housing, Mr. Blandford asserted. There is a general agreement that solving this problem requires subsidy and the one comprehensive attack has been under the U. S. Housing Act, operating through local housing authorities.

Civic Cooperation Essential

"Cities," he urged, "should strive for machinery that will draw together the points of view and interests of the entire community. . . . The city government, the planning commission, the local housing authority, the lending institution, the builder, the materials supplier, the real estate operator, labor, and representatives of the consumer should get around the table and face up to their community housing job."

The broad, national objective in housing, Mr. Blandford said, could be expressed simply as "a decent home for every American family."

Community Discussions of Foreign Policy

"BY and large the foreign policy of a democracy is in the hands of the people. If they are dynamic for a functioning peace, we shall have that peace. So what are we doing about it?" Mayor Wilson W. Wyatt, of Louisville, Ky., raised this question in the July 1944 issue of THE AMERICAN CITY and advocated *Community Discussions.*

Communities have no time to lose in acquainting themselves with the momentous issues and in making up their minds about them. As a guide for discussions the illustrated booklet, "11 Fundamentals for the Organization of Peace," issued by the Commission to Study the Organization of Peace, 8 W. 40th St., New York, N. Y., presents in graphic form the recommendations of a large body of our foremost thinkers on the subject. It proposes:

1. Immediate action in establishing a general international organization providing for eventual participation by all nations capable of fulfilling their responsibilities
2. Universal obligation to settle disputes by peaceful means
3. Prevention of aggression through means and agreements reached under international organization
4. Justice, furthered by means of a permanent court acting as supreme judicial tribunal of the international organization
5. Control of armaments and progressive reduction to agreed levels under the supervision of an armament control commission
6. Economic and social collaboration to secure "improved labor standards, economic advancement and social security"
7. Human rights protected by international law
8. Colonial trusteeship over non self-governing territories responsible to the international organization guaranteeing elimination of exploitation and extending self-government
9. Central political bodies: (1) An *international assembly* open eventually to delegates of all nations; (2) An *executive council* composed of states bearing the heaviest share and responsibility for restoration and maintenance of peace and empowered to make quick decisions in case of threat; (3) A *secretariat* to study international problems.
10. Regional organizations should conform to the same fundmental purposes as the international organization and cooperate with it
11. Use of existing machinery established as foundations of peace by the League of Nations, utilizing whatever may be serviceable in its experience and organization.

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. . . when the boys come home!

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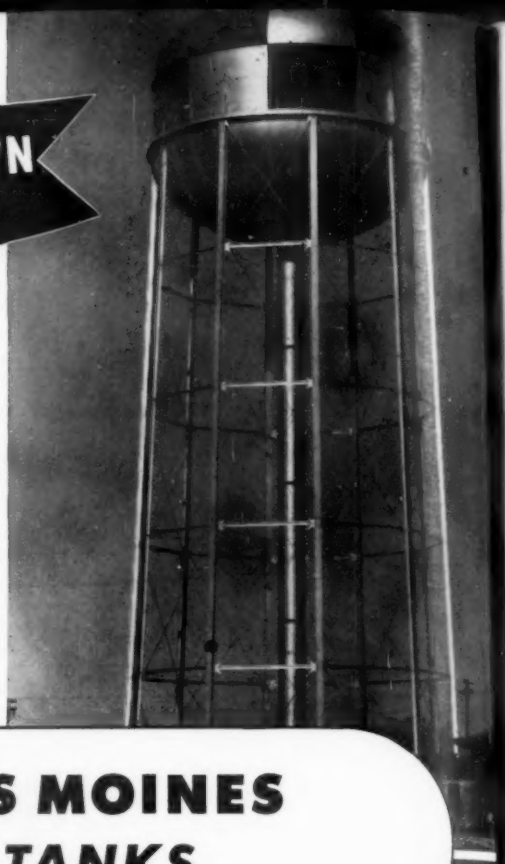

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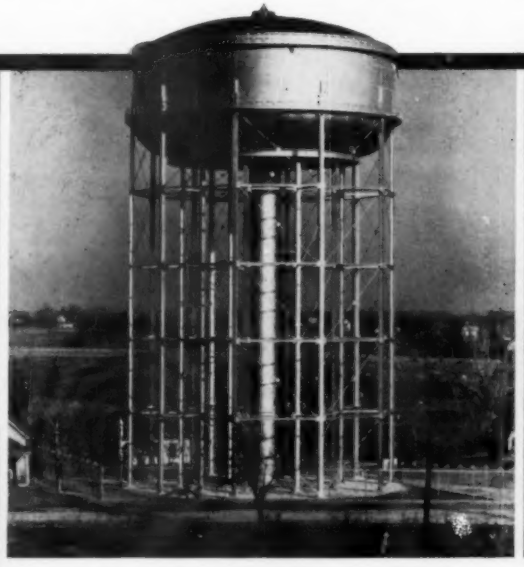

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Schenectady N. Y., Meets a Water Supply Crisis

(Concluded from page 73)

that normally, no chemical treatment is necessary. We do, however, under State Health regulations as a matter of precaution, chlorinate and ammoniate the water for a period of thirty days during the spring freshet period. Numerous weekly samples are taken throughout the distribution system and the large majority of these indicate the sterile nature of the water.

The problem of supplying water for Schenectady has extended over a long period of years. Often the situation was so acute that it seemed the problem could not be met in time, but always an emergency solution was found. Now a new era is beginning and I believe the adequacy of water supply is definitely assured for years to come.

Personnel

The consulting engineer was Malcolm Pirnie of New York City. The principal contractors were the Layne-New York Co. and the Stock Construction Corp., both of New York, M. Gold & Son and Thomas C. Brown Corp., both located in Schenectady, N. Y.

John M. Gallagher, Regional Director, Wm. D. Jones, his assistant, and Edward H. Bollenbacher represented the Federal Works Agency on the project.

Chlorine and ammonia feeders were installed by Wallace & Tiernan Co., Inc., Newark 1, N. J. All the electrical equipment was furnished by the General Electric Co., Schenectady, N. Y.

Educational Opportunities for Veterans

THE Servicemen's Readjustment Act of 1944, known popularly as the G. I. Bill of Rights, takes a long and far-reaching stride forward in education. Not only will the law make possible higher education for men who would normally have gone to college, but it goes further and opens the college doors to all those mentally fitted for access. Technical training schools are also available to the serviceman. The law provides:

"Any person who served in the active military or naval service on or after September 16, 1940, and prior to the termination of the present war, and who shall have been discharged or released therefrom under conditions other than dishonorable, and whose education or training was impeded, delayed, interrupted, or interfered with by reason of his entrance into the service, or who desires a refresher or training course, who either shall have served ninety days or more . . . or shall have been discharged or released from active service by reason of an actual service-incurred injury or disability, shall be eligible for and entitled to receive education and training under this part: *Provided*, That such course shall be initiated not later than two years after either the date of his discharge or the termination of the present war whichever is the later: *Provided further*, That no such education or training shall be afforded beyond seven years after the termination of the present war: *and Provided further*, That any such person who was not over 25 years of age at the time he entered the service shall be deemed to have had his education or training impeded, delayed, interrupted, or interfered with."

The serviceman is entitled to one year at an approved educational or training institution of his choice which he is qualified to enter. If this period is satisfactorily completed according to the regular standards of the institution, he is entitled to an additional period not to exceed the length of his service after September 16, 1940. Tuition and other educational costs (laboratory and library fees, books, etc.) up to $500 will be paid by the government.

A subsistence allowance of $50 per month will be made to a serviceman without dependents and $75 to one with dependents. No course of education or training shall exceed 4 years.

The Educational provisions in the G. I. Bill of Rights have significance in other respects. For the first time in our history a college education is placed on the threshold of millions of young men in the country who could normally secure one only by dint of most extraordinary personal strain. Subject only to limitations of mental capacity and personal determination, the academic doors have been thrown wide open by this provision to the former newsboy, bootblack, or son of a migrant farm laborer. The result may be a leveling up process (with respect to opportunity) of considerable magnitude. It will be an educational experiment that will undoubtedly be followed with keen interest by persons concerned with the educational future of the country.

Intentionally or otherwise, the law will simultaneously accomplish four objectives: appreciative recognition of the veteran's service to his country; prevention of substantial depletion of the country's supply of citizens with advanced training; a more gradual and orderly return to the labor market of a substantial number of veterans, thereby lessening the threat of mass unemployment resulting from large scale demobilization of servicemen and war workers; and a great social and educational experiment whereby Mike the newsboy and Jimmy the bootblack may devote their attention to mechanical engineering, business administration, geology, or art.

A number of states and cities offer special educational privileges to orphans or dependents of veterans or to veterans themselves.

From the 1944 Annual Report of Greenwich, Conn.

GET RID OF THE *Sacred Cow* IN WIRING!

In planning electrical wiring circuits for municipal, county or town buildings, the costly custom of using No. 14 wire has blocked progress toward adequate wiring like the sacred cow on an Indian road. The Hindu, you recall, reveres the cow and will not disturb it, regardless of time or place. But, if our buildings of tomorrow are to have proper wiring, then sacred cows like No. 14 must yield to progress.

A first and basic step towards realization of the adequately wired building should be insistence that the sacred cow of No. 14 must go. Its anemic circuits have deprived many a building of full use of available power. To take full advantage of the electrical world of tomorrow, wiring must be planned with an eye to the future for the greater use of electrical equipment. The Okonite Company, Passaic, N. J.

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To wire a building adequately, no smaller wire than No. 12 should be specified. Only one size larger, it will carry one third more current, reduce voltage drop by more than a third, deliver more power for your money and yet requires no larger conduit or fittings.

ADEQUATE WIRING THE KEY TO INCREASED PRODUCTION SERVES SAVES

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Memo: TO MY SECRETARY

"Drop a note to the builder and tell him I WANT nothing smaller than #12 WIRE, without fail for our new plant"

Proposed Civic Center for Portland, Ore.

(Concluded from page 63)

tion on the west side of the downtown flat.

Economic Soundness

Economically the plan seems to be sound. Property proposed to be acquired for the Center is comparatively cheap and would probably cost approximately $5,000,000. It is estimated that the City would recoup anywhere from $2,000,000 to $4,000,000 of this money by resale of land to the federal government, the state, and to some of the other agencies for buildings going into the area, while the sale of the land adjacent to the new Second Avenue on its west side would amount to anywhere between $1,000,000 and $2,000,000 according to general estimates of local real estate people.

This plan has been approved in principle by the City Council of Portland, the Portland City Planning Commission, the Oregon Chapter of the American Institute of Architects, the Oregon Building Congress, and the Portland Area Post-War Development Committee.

Commissioner William A. Bowes, in whose department the staff of the Planning Commission operates, has been very courageous and farsighted in promoting this program, and it was through his leadership that it was approved by the City Council. In the City Planning Commission the Civic Center Committee, which worked closely with the staff in developing the plans, is composed of Professor Charles McKinley, Ernest C. Willard and Glenn Stanton. The president of the Planning Commission, Guy E. Jaques, contributed a good deal also.

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* AUTHOR'S NOTE.—A Civic Center proposal was made in the report of Robert Moses and Associates [See THE AMERICAN CITY for December 1943, pages 37-39]. A detailed analysis indicated, however, that although a large part of the area proposed in that report for the Civic Center location was quite satisfactory, some of the land was entirely too expensive as compared with other land adjacent to the center of the city. It was believed by the Planning Commission that it would be far more advantageous to the city and to civic center functions to develop a fairly long, narrow strip of the deteriorated area along the waterfront rather than to construct the entire Center on the south side of the central commercial area.

Unfortunately the city found itself so near its bonding limit that we were unable to get this Civic Center project on the ballot for vote in the November election. It is the hope of the Planning Commission and the City Council, as well as other local organizations, that we shall be able to either put this project on the ballot two years hence, when the bonding limit will be greatly improved, or call a special election in case the financial situation is improved through federal aid to other projects or through federal or state aid to this project.

New York's Mayor Presents Cities' Case for More Radio Frequencies

Statement on behalf of the 230 major cities of the Nation, by Hon. F. H. LaGuardia, as President of the United States Conference of Mayors, before the Federal Communications Commission in Washington, D. C., October 20, 1944.

IT seems needless for me to emphasize the vital and essential role radio plays in the protection of life and property within our cities. In carrying out these governmental functions of law enforcement and fire protection, radio has developed to the point where we simply could not do our job without recourse to adequate channels and facilities.

And yet I understand proposals have been made which suggest a lesser number of channels for municipal emergency services instead of recommending those increased facilities required to meet the expanding growth of field and mobile stations for point-to-point traffic, both telephone and telegraph, and facsimile transmission of alarms, fingerprints, and photographs.

Gentlemen, we contend that cities, charged with the primary responsibility of protection of life and property should, after the needs of the Armed Services have been provided, be given first priority by the Commission in the allocation of frequencies. All public and governmental needs must be given consideration over and above all requests from or allocations to commercial services.

The Resolution

(Adopted by the Executive Committee of the United States Conference of Mayors, October 1, 1944.)

WHEREAS, The United States Conference of Mayors has been apprised of the planning work now being undertaken by the U. S. Department of State and the Federal Communications Commission relative to the allocation of radio frequencies; and

WHEREAS, the use of radio by Fire and Police Services has grown to be most important to municipalities in the protection of life and property, as well as to the public safety of our citizens; and

WHEREAS, emergency radio service by the Fire and Police Departments of this nation's municipalities will be greatly expanded, as soon as manpower and equipment are available; and

WHEREAS, The United States Conference of Mayors views with grave concern any recommendations which have been or may be submitted affecting the requests of our emergency services, Fire and Police, since these are definitely Governmental functions, and facilities must be assigned for such activities before any allocations are made to non-governmental agencies;

THEREFORE BE IT RESOLVED, That the Executive Committee of The United States Conference of Mayors urges the Federal Communications Commission to thoroughly consider the needs of Fire and Police Services to the end that an adequate number of radio channels are made available for these vital services; and

BE IT FURTHER RESOLVED, That The U. S. Conference of Mayors assures the Federal Communications Commission of its desire to cooperate for the purpose of insuring that a fair and equitable allocation of frequencies will be provided.

Will Advise on War Memorials

COMMUNITIES that want to build war memorials such as community centers, auditoriums and recreation parks, may obtain technical assistance in their planning, Federal Security Administrator Paul V. McNutt said recently. Mr. McNutt announced he had directed the Office of Community War Services to make the help of its trained consultants available to towns seeking information and advice.

Coincident with the drive into Germany and the stepping up of operations in the Pacific, Mr. McNutt explained that cities, towns and villages have increased the number of calls on the Federal Security Agency for help in planning memorials to the men and women in the armed services.

"Almost without exception," he said, "these appeals are coming from communities that want to build structures that will meet the cultural and recreational needs of their people as well as memorialize those who went to war. They feel that this can best be done by erecting a living war memorial rather than the traditional tablet-bearing shaft, massive mausoleum, or bronze statue."

The men prepared to advise interested communities, Mr. McNutt said, are field representatives of the recreation division of the Office of Community War Services. They will make available to the communities their experience and that of cities and towns where war memorials already have been built. Upon request they will survey local conditions and counsel and guide communities not only on the making of plans but also on ways in which communities have financed such projects. In some cases they will provide suggested architectural plans for memorials to the local government or the properly designated memorial committee.

"But in every case the community initiates and carries through its own plans," Mr. McNutt said. "We are glad to pass on our experience, on request; but the responsibility of determining the kind of a memorial the people in a particular town want is theirs; and the finding of the money to build and maintain it is likewise up to them."

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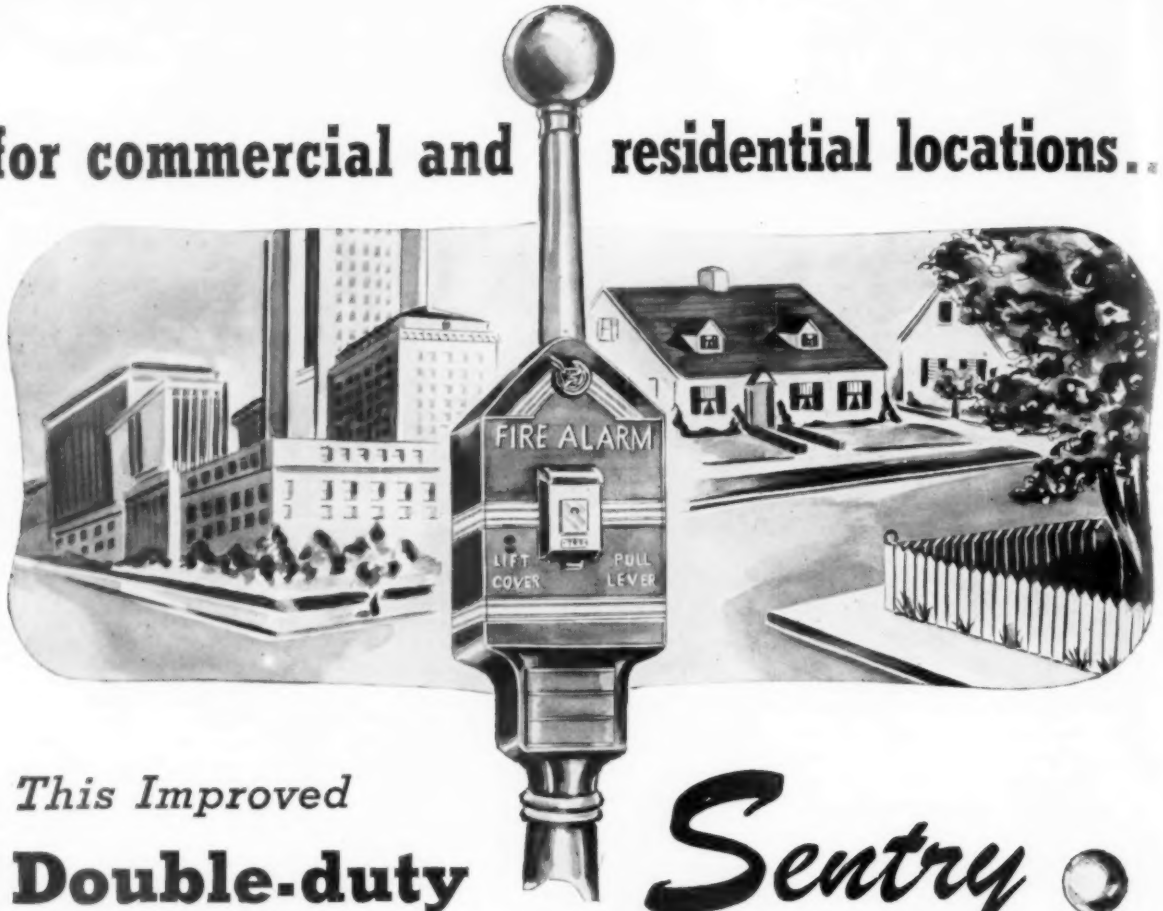

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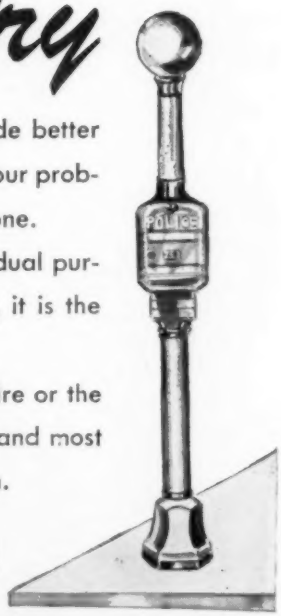

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Municipal Law Notes and Decisions

Prepared by NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS, Washington, D. C.

Charles S. Rhyne, *Executive Director*

Subdivision Control

To Prevent a Harmful Post-War Boom— Legal and Practical Considerations

THE end of the war will undoubtedly bring a real estate boom the like of which this nation has never experienced. The ban on new construction and the almost mandatory savings during the war period are creating conditions which inevitably lead to such a boom. This situation calls for immediate action by cities if they are to avoid the troubles which have decended upon them in the past because of their failure to so control new subdivisions as to protect properly the public interest.

The August 16, 1944, issue of *Municipal Finance*, official publication of Municipal Finance Officers Association, states in part:

"Local governments in the United States and Canada must take immediate steps to control the development of subdivision property within and without city limits. Unless they do so, there will be a repetition of the defaults, the tax delinquencies, and the large waste of public moneys spent on unneeded public improvements in prior eras of expansion. The excessive subdividing of land, and the improvements built by municipalities for the benefit of the subdividers were the primary causes of financial troubles of large municipalities, small municipalities, and suburban areas from 1929 to 1935, and during several other earlier periods. There has been a tendency in every other period of expansion to subdivide the lands inside and outside the cities and to sell these to people of moderate or small incomes at relatively high prices. The municipalities have a stake in this development because (1) they are called upon to finance most of the improvements; (2) at the present time there are available a sufficient number of satisfactory building lots inside the city limits with all or some of the public improvements already available; and (3) construction outside of the city limits will tend to further decrease the population and assessed valuation of property inside the city. Even more important may be the fact that the development of subdivision property compels municipalities to make a large capital investment and to extend current services to thinly occupied areas."

Herein will be considered some ideas with respect to subdivision control, and the court decisions which will be helpful to those studying this subject will be collected and analyzed.

Control Through Zoning

The influence of zoning has made itself widely felt in the growth and development of subdivision regulations for control of areas beyond city limits to which the city's police power has been extended by statute or charter amendment, as, by varying devices and measures, such subdivisions have been required to conform to the local zoning laws. In many instances such regulations include a stipulation that no lot be proposed for a use classification lower than that permitted in the city or town. Some regulations provide that unless the use permitted to be made of the lots appears appropriate and suitable, the plat will not be approved, while in other instances, the necessary needs of the proposed use may be considered with a requirement that certain facilities be provided.

In a model regulation of the United States Department of Commerce, there is stated a rule frequently found in municipal and state legislation providing that where the planning body and the person desirous of laying out the subdivision agree as to the zoning restrictions, and the restrictions are stated on the plat, they will be enforced in the same manner and with the same stringency as if they were a part of the zoning ordinance.

Beyond the City's Limits

It is, of course, true that cities cannot exercise any control over outside areas unless the state legislature has by statute or charter amendment extended the police jurisdiction of cities for a definite limit beyond the city's fixed corporate boundaries. Many state legislatures have conferred police jurisdiction upon cities to cover the so-called "fringe" areas surrounding certain cities so as to prevent developments in such areas which would create a health or fire hazard to residents of the city. It will be noted that the *Seligman* case, *infra*, specifically considers a suburban subdivision located outside the corporate limits of the city of Louisville. On the general subject of annexation of platted areas, see McQuillan, "Municipal Corporations," Section 292.

The New York Division of State Planning has a proposed regulation in which the plotting of lands which is subject to damage by floods will not be allowed. The subdivision regulations of Alameda, Calif., provide that whenever a subdivision or a portion thereof is contiguous to the waters of San Francisco Bay, there shall be constructed an approved sea-wall or bulkhead of such design as will protect the land in the subdivision and the improvements from damage by the action of the tides or by the waters of the Bay during wind or storm.

Improvements at Subdivider's Expense

Although formerly a city's chief concern seemed to be the designing and laying out of plots as such, recently a decided trend is developing whereby regulations are requiring, before the plot is approved, the construction and installatien of physical improvements within the subdivision or the giving of a satisfactory bond for their construction later. These improvements include the installing of such facilities as storm sewers and drains, street surfacing, hydrants, etc. The validity of such provisions was in part upheld in the case of *Windsor* v. *Whitney*, 95 Conn. 357, 111 Atl. 354 (1920), wherein the Court, in upholding a statute granting the town of Windsor power to control subdivision development, stated, "a legislative requirement, such as the Act before us, that private highways laid out in land development schemes shall be of a reasonable width and that reasonable building lines shall be established upon these streets before the erection of buildings fronting upon these streets shall be permitted, is well within the police power and does not offend against the Fourteenth Amendment."

Control of Streets

Another case, *Ridgefield Land Co.* v. *City of Detroit*, 241 Mich. 468, 217 N. W. 58 (1928), involved the question of the right of the city to control the width of streets in subdivisions. The Ridgefield Land Company objected to the insistence of the Planning Commission of Detroit on having two streets on a proposed plat dedicated to greater width than the existing portions of such streets, but the Supreme Court of the State of Michigan held that the city was within its police powers in requiring a greater width than that shown on the plat.

In *Clark* v. *Ferguson*, 933, 141 S. W. (2d) 116 (1940), the Supreme Court of Missouri held that the owner of land who caused land to be platted into lots and streets, which plat was approved by the City of Poplar Bluff, divested himself of title to the streets which were dedicated to the public use and could not subsequently change the location or dimensions of such streets.

Power of Planning Commission

Concerning the power of the planning commisison itself, in the case of *Mansfield and Sweet* v. *Town of West Orange*, 120 N. J. L. 145, 198 Atl. 225 (1938), the Supreme Court of New Jersey held that the Planning Board's disapproval of a 4½-acre subdivision, upon which were to be erected dissimilar single family

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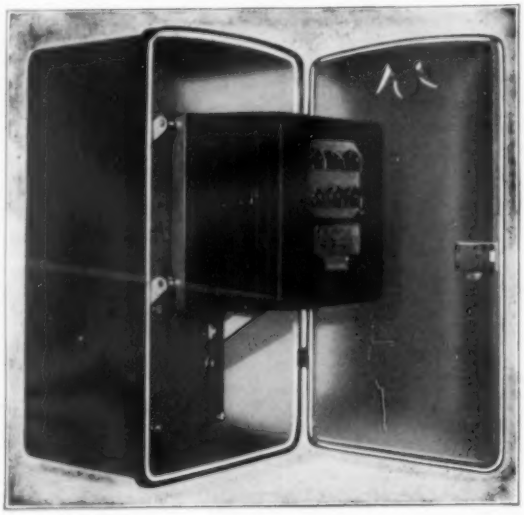

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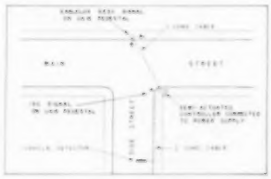

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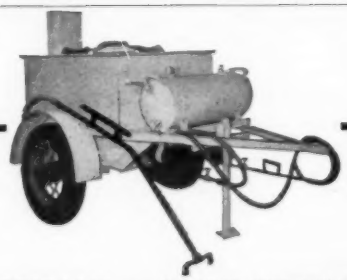

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dwellings at prices from $15,000 to $18,000, because of the objection of neighboring landowners who owned estates each containing one large mansion house valued at from $50,000 to $75,000, was an invalid exercise of the police power.

In *Seligman* v. *Belknap*, 288 Ky. 133, 155 S. W. (2d) 735 (1941), the Court held that a decision of the Louisville Planning and Zoning Commission approving a plat of a suburban subdivision located outside the corporate limits of Louisville was final and was not subject to review by the Louisville Board of Adjustment and Appeals.

And in *Newton* v. *American Security Co.*, 201 Ark. 943, 148 S. W. (2d) 311 (1941), the Supreme Court of Arkansas held that the trial court erred in holding that the action of the Planning Commission, which had disapproved a plat because of the owner's refusal to dedicate strips of land to widen county roads adjoining platted property, was unauthorized because no provision had been made for compensation to owner. The Court based its decision on the ground that there was no showing of an effort to take petitioner's property for public use, what evidence the commission acted upon, nor of the arbitrary nature of such action.

In the case of *Schaefer* v. *Trowalter*, 179 S. W. (2d) 765, reversing 176 S. W. (2d) 591 (Texas, April 5, 1944), the Supreme Court of Texas held that the recording statute which forbids filing or recording of a plat of any subdivision until authorized by the Commissioner's Court is not unconstitutional as clothing the Court with undefined judicial discretion or arbitrary power.

Water Supply and Sidewalks

A water supply is, of course, the first requirement for proper land development of a subdivision. In some instances, the extent and location of the water systems are officially determined or must be officially approved. In other instances, installation of water facilities is required only in plats where lots are less than a specified area. Still others either require that installations be made only where a public main is accessible, that fire hydrants be installed at the same time as the water mains, or that each lot be specifically provided with a lot connection or service outlet. Several Ohio cities have the provision that suburban developments will not be supplied water connections until sewage disposal facilities are available. In Shreveport, La., it is required that all sewer connections shall be brought out to within the curb line prior to any street paving.

Concerning sidewalk improvements, in many cases it is required that the sidewalks be constructed by the subdivider. In other cases, the improvement of sidewalks, at least the surfacing of walks, is implied in the requirements of street grading. Many ordinances require that walks be paved with some form of stone or concrete, while others simply require surfacing with cinders or gravel.

Public Open Spaces

As to the need of public open spaces in subdivisions, it would seem that the commission may regulate the provision of open spaces in subdivisions provided the requirements are reasonable. As to the dedication of open spaces, however, a subdivider cannot be compelled to dedicate a major portion of his tract for the establishment of parks, or streets, to benefit the entire city.

An interesting case relating to this problem is that of *Newton* v. *American Security Co., supra*, which involved a refusal of the planning commission to accept the subdivider's plat unless an additional 10 feet was dedicated for streets. The subdivider claimed that the commission in refusing to accept the plat without the additional 10-foot dedication was attempting to take property without just compensation. The Court held, nevertheless, that no one was attempting to take the property of the subdivider because there was no law requiring the subdivider to file a plat.

A strong dissent in this case by Justice Smith drew attention to the fact that the subdivider's only purpose in attempting to plat the land was to make the assessment for taxation less difficult and impractical than it was at present, and that the decision of the majority of the Court left the subdivider with only two alternatives—he must either forego the advantages of having the map and plat of the survey recorded, or he must donate his land without compensation.

Certificate of Convenience and Necessity for Real Estate Subdivision

By FRANK B. WILLIAMS*

MR. RHYNE, in the foregoing article, has made an excellent summary of the legal methods of preventing subdivision which is unsuitable or in similar ways inimical to the public welfare. Obviously, the direct effect of such provisions is most desirable. But Mr. Rhyne also sees that subdivision, good or bad, has, in the past, been in excess of the public need, and often evil for that reason alone. This evil, resulting in the premature destruction of agricultural and similar values, tax delinquency, and consequent heavy burdens upon the community, has been so often and so fully discussed already that it is only necessary to state it at this time, without amplification.

Obviously, as Mr. Rhyne sees, the prevention of bad subdivision tends, indirectly to some extent, to prevent over-subdivision. Is there not some direct and more powerful method of accomplishing this results? A means which, it is hoped by some, will attain this end is the requirement, of all future subdividers, that they shall previously obtain from the community a so-called "certificate of public convenience and necessity."

Analogy from Public Utilities

The idea is derived from the law and practice with relation to public utilities. Such a certificate has long been required. In the older law such a utility must be a natural monopoly, a national resource, or something of the sort. In such cases the attempt is made in the public interest to limit the charges of the monopoly, so that the public should not be compelled to pay excessive charges; to prevent unnecessary competition, which is wasteful, and in the end is an expense to the public; and to require adequate facilities and service. In this connection a certificate of public convenience and necessity is obviously advantageous.

The advocates of a certificate of public convenience and necessity point out that land is a natural resource, and, in many localities, a monopoly. The requirement that a public utility must be a monopoly or a natural resource is nowadays less insisted upon, however. For instance, insurance, in some of its many ramifications, has been held to be a public utility, although it is not a monopoly or a natural resource. It would almost seem that nowadays a public utility is any activity which in the opinion of the judges, might, in the public interest, be regulated as such. And it is by no means all monopolies or natural resources which the judges will regulate as such.

A Subject for Discussion

Certainly, therefore, the advocates of such regulation of land subdivision must show that the requirement of a certificate of convenience and necessity is highly desirable. Judges would be more or less deterred from so deciding by their desire to make all property, especially land, readily alienable. Nor, advantageous as it is for some reasons, is it at all obvious that the requirement does not have many dangers and disadvantages.

I do not here venture to advocate it, but merely to suggest it for further discussion in the hope that some remedy for the great evil of excessive subdivision will eventually be evolved and adopted.

See also
"The Cities' Most Serious Crisis"
(page 5 of this issue)
and
"Your Stake in Community Planning"
(page 91)

* Editor of THE AMERICAN CITY's monthly department of "Zoning and Planning Notes," for which the accompanying comment is substituted this month.

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D. Grant Mickle, Chairman; Donald S. Berry, Fred W. Fisch, Maxwell Halsey, Wilfred F. Irvin, Harry C. Koch, Philip S. Mancini, Claude N. Maurer, W. F. Milner, W. L. Robinson, I. S. Shattuck, George M. Webb

Parking Ordinances That Have Worked

By CLIFTON G. STONEBURNER
Traffic Engineer
Engineering Department
Arlington County, Va.

ARLINGTON COUNTY, VA., adjoining the District of Columbia, has developed model off-street parking facilities as a result of the county's spectacular growth in the last few years. Off-street parking spaces were made a private obligation in the county zoning ordinance, under which 17,000 residential units have been built and business centers of the county have developed parking facilities that mean added patronage and permanent values.

One off-street parking space must be provided in connection with each family unit, whether dwelling or apartment. Industries must provide off-street space for all vehicles employed in their operation, plus one space for every two employees. These spaces must be at least 200 square feet per vehicle, in addition to access lanes to the streets. Similar provisions cover all theatres, auditoriums, hospitals, and all other places where parking demands exist.

Results have been gratifying. New buildings are set back to permit parking. Streets generally are clear of parked cars around off-street facilities even when curb parking is permitted.

Buildings do not block traffic view at intersections, and accident rates are extremely low. Shopping centers develop as consolidated and attractive units, and any future street widening will not affect parking facilities. Driveways from streets to parking areas are not permitted to exceed 25 feet in width, thus controlling access. Street congestion at these access points is guarded against by keeping driveways well away from intersections.

Parking in apartment areas is generally in spaces parallel to the street, separated from it by a grassed or shrubbed strip. Again, parking courts are formed by the groupings of several buildings. Parking in the rear of buildings is not popular unless rear entrances are provided. But when parking spaces are near entrances, curb parking disappears.

This parking court is convenient for residents and leaves the street free for local travel and through traffic.

Although curb parking is permissible in this apartment district of Arlington, Va., off-street spaces are also provided, and curb congestion is not a problem.

Meeting Parking After the War

By FRED W. FISCH
Director of Traffic and Planning
Schenectady, N. Y.

DOWNTOWN off-street parking needs are recognized as the Number One post-war traffic problem of almost every city. A poll of trends reveals that:

A new agency has been set up in Washington, D. C., to continue the work of the metropolitan Motor Vehicle Parking Agency, halted as a war measure. It will recommend comprehensive municipal action for the District of Columbia's post-war parking requirements.

Buffalo merchants are working on a downtown parking program, but plans are not ready for open discussion.

ARMY E NAVY

Background of KARPARK RELIABILITY

EXCELLENCE IN THE MAKING

The superior design features of the Karpark—*pendulum escapement, rugged housing, power actuated coin slot, automatic operation*—are backed by superior manufacturing. Karparks are made by the Herschede Hall Clock Company with the same skill and according to the same high standards which won the Army-Navy E Award for excellence in production and which have made Herschede Clocks famous for three generations. Reliability assures reliability.

"To be successful, a meter-parking system must have a dependable meter."

To decide wisely, write for the Karpark story.

REPRESENTATIVES ARE URGED to get in touch with us at once, while good territories are still available. A written request will bring full particulars about the unusual selling advantages of the Karpark Automatic Meter.

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STYLE "B-2"
Oil burning kettle equipped with steel roller-bearing wheels.

CONNERY'S HEATING KETTLES

Speed up work by using a Connery Heating Kettle for building and maintaining highways, airports, barracks and roads. Made in sizes of 30, 80, 110 and 165 gallons.

Send today for our complete catalog showing our full line of Tar and Asphalt Heating Kettles, Spraying Attachments, Pouring Pots, etc.

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4000 North Second St. Philadelphia 40, Pa.

AROWAY

TRAFFIC SIGNALS FOR POST-WAR DEMANDS

Aroway will lead the way in post-war Traffic Signals because they are the simplest, clearest and most practical to avoid traffic snarls and costly accidents. The great hazards of traffic demand more than the old-fashioned Stop and Go Signals. The modern Aroway Signal is all-encompassing. It eliminates auxiliary signs like No Left Turn; No U Turn; Straight Ahead, etc. Aroway Signals are complete at one focal point: *at the Stop and Go lights* and even those who cannot read or discern color will see the open and closed traffic lanes at a glance.

The demand for Aroway Traffic Signals for post-war demand will be tremendous. So get preliminary data now. Write to:

AROWAY TRAFFIC SIGNALS, INC.
JOHNSON CITY, TENNESSEE

St. Paul, Minn., will complete a parking survey early in 1945, on which action can be taken under the sweeping powers granted municipalities by the State Parking Authority Act adopted in 1943.

Oakland, Calif., merchants, already operating six large downtown parking lots with two-hour free parking, plan to extend this successful cooperative program after the war, convinced that it has been the major factor in revitalizing downtown business values.

Lansing, Mich., has a $55,000 reserve fund from parking meter profits for purchasing off-street parking lots after the war. Double-deck open-air parking structures, both public and private, will also be a definite part of Lansing's parking system.

Several new types of completely automatic parking garages, with elevators and devices for collecting parking fees, will be on the market after the war.

Flint, Mich., Merchants Provide Downtown Parking Lot

By HENRY A. BARNES
City Traffic Engineer
Flint, Mich.

FLINT'S former city market now is a 600-car downtown parking lot, operated on a non-profit basis by a Merchants' Parking Association. The Association installed all facilities, hires attendants and maintains the lot. Revenues in excess of $500 a month go to the city for other traffic improvements.

The city owns two other central parking areas, with a capacity of 350 cars. Both lots are filled all day by downtown workers, the two-hour time limit being poorly enforced. After the war, parking meters will be installed on these lots, the proceeds to be used for improving the lots and for other traffic needs.

Flint also requires property owners whose land generates special parking demands to provide parking spaces at their own expense, if the street requires curb-parking restrictions. A high school, and a number of business places, have installed curb cutbacks as here illustrated. Accidents have been eliminated at several previously hazardous parking locations since the City Commission decided on the need for private curb cutbacks in order to continue curb parking in those areas.

Flint ordinance requires business places and schools to provide their own curb cutbacks if they want parking spaces.

Off-street parking problems have been critical at war factories, but attempts to solve them came too late to obtain defense-plant funds. Manufacturers feel they cannot make parking-lot investments until after the war.

Philadelphia's Ordinance

By ROBERT A. MITCHELL
Philadelphia City Traffic Engineer

SUCCESS of the Philadelphia parking lot ordinance, 1941, in checking abuses by private parking operators gives impetus to plans for further and more positive post-war actions.

The 1941 ordinance requires advance application for a license by a parking lot operator, and the advance meeting of certain specifications. The license may be revoked at any time the ordinance is violated.

Provisions are that the lot must be fenced, lot attendants are not to move cars to other lots during the day without written approval of car owners, bond must be posted to guarantee prompt payment of any damage judgment, rates must be fully and uniformly displayed, lot must be well lighted during business hours, and no more cars are to be parked than the number approved by the city according to advance parking plans submitted by the lot operator.

CITY MANAGERS WHO HAVE SERVED 25 YEARS OR MORE

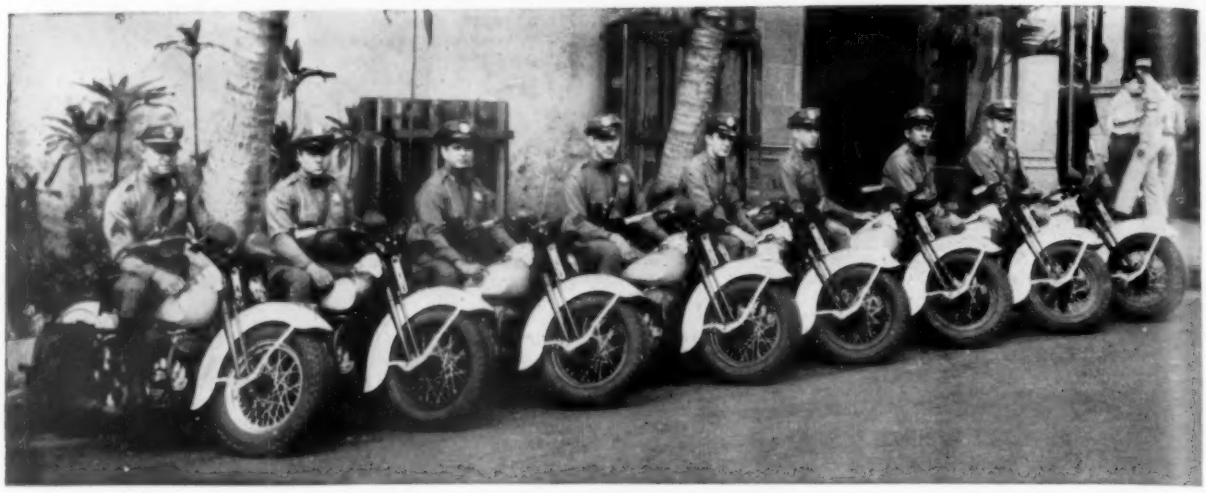
At the recent annual meeting of the International City Managers' Association, four service awards were added to the growing list given in recognition of 25 years or more of service in the city manager field. These 1944 awards went to:

H. J. GRAESER, City Manager, Marshall, Texas
V. J. HULQUIST, City Manager, Alcoa, Tenn.
FRED E. JOHNSTON, City Manager, Sallisaw, Okla.
THEODORE TOWNSEND, City Manager, St. Johns, Mich.

This practice of granting 25-year service awards was begun at the 1943 conference of ICMA, when eight managers were thus honored. These were:

CLARENCE ARRASMITH, City Manager, Fillmore, Calif.
L. J. HOUSTON, JR., City Manager, Fredericksburg, Va.
WILLIAM T. HOWIE, Borough Manager, Towanda, Pa.
WILLIAM P. HUNTER, City Manager, Roanoke, Va.
F. L. JENKINS, City Manager, Portland, Mich.
GEORGE JOHNSTON, City Manager, Cadillac, Mich.
HENRY TRAXLER, City Manager, Janesville, Wis.
H. L. WOOLHISER, Village Manager, Winnetka, Ill.

HARLEY-DAVIDSONS INDISPENSABLE TO HONOLULU
IN HANDLING EXTRA POLICE WORK



Because of Hawaii's strategic importance, Honolulu is crowded with throngs of servicemen—and civilians who have gone there to help in the war effort. This has brought unprecedented demands on Honolulu's police. Playing a vital role in this tremendous task is the Traffic Squad shown here. It is significant that the motorcycles are Harley-Davidsons. Honolulu and many other American cities know from experience that no other method can match motorcycles for police work—not only in traffic control, but in many phases of protection and law enforcement.

Cities of every size also know from experience that the dependable, long-range performance of Harley-Davidsons has proved invaluable in extending the effectiveness of police departments even when manpower is limited. Officers on Harley-Davidson Motorcycles cover more territory — concentrate quickly at scenes of trouble — provide better protection of life and property — and maintain more complete and thorough traffic control. Furthermore, they keep in closer contact with the public—and command its respect through constant evidence of uniformed authority.

HARLEY-DAVIDSON MOTOR CO., Milwaukee 1, Wisconsin

Harley-Davidson Motorcycles are available now for vital police needs. See your dealer.

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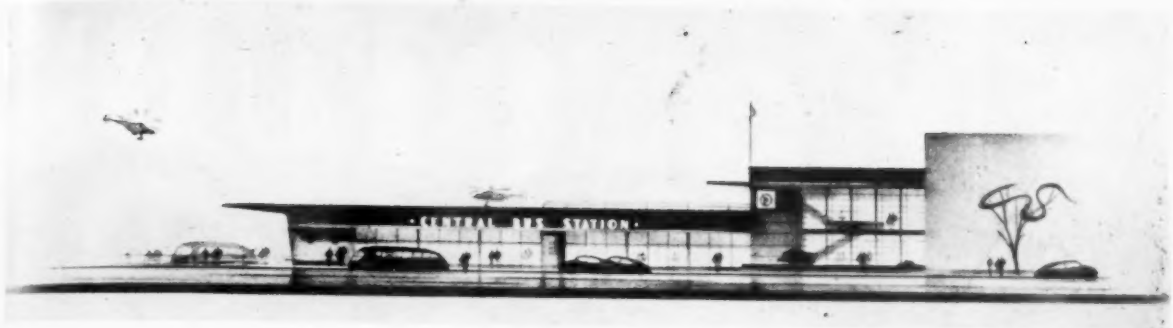
Police Motorcycles

★ ON AMERICA'S FRONT LINES OF ACTION ★

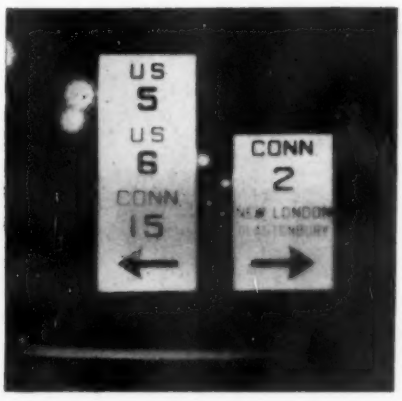


Projects for Beaver County

Above is a conception of a central bus terminal in Beaver County, Pa., and to the right, a proposed interchange for Conways Corners, the county's worst bottleneck. These two projects are included in the tentative $52,000,000 five-year post-war plan. Both designs are by Michael Baker, Jr., of the Baker Engineers, Rochester, Pa.

Connecticut Highways Marked by Scotchlite

By WILLIAM J. COX
State Highway Commissioner
Hartford, Conn.



BLACK letters and symbols on signs stand out at night on white or yellow backgrounds in much the same fashion as they do in daytime, along the roadsides of Connecticut. Over-all reflectorization of highway signs as opposed to the limited illumination of letters and symbols has passed from the experimental state to standard practice for the Connecticut State Highway Department.

A pioneer in the use of this newer type of sign, the Connecticut department is making replacements, but is allowing the older style signs to serve out their normal life.

The entire surface of the sign board is covered with a material coated with glass spheres so small that there are about 6,000 to the square inch. This material in white or appropriate color reflects back the rays of automobile headlights making both the shape and the color of the sign much the same as it was in daylight. Painted on these over-all reflectors in black are the letters or symbols used to convey the messages to drivers.

Standard usage has been confined to signs but an extension is being tried in the reflectorization of fence posts. This has special importance to us in Connecticut, since the former white posts have been largely replaced by pressure-treated creosoted posts. White paint would not adhere to creosote in some instances and when it did the brown creosote bled through the paint. The success that has marked the use of over-all reflectorization of signs is indicated in the first use on fence posts and the experiments are being continued on size, shape, and method of application for strips of the over-all reflecting material on the fence. Thus far the new material has been cemented to metal strips, which in turn have been securely fastened to the posts.

A Traffic Axiom

THE human eye only observes 1/12,000th of all that is in its immediate vision. So scientists tell us. At this rate, then, the motorist should act with judgment when he does observe a potential danger in traveling.

Traffic Education Unit
Los Angeles Police Dept.

MONOTUBE
POLES..
• Perform a combination of services on a permanent basis at low cost. Designed by qualified engineers to support modern street lights, transmission and distribution lines, telephone and telegraph wires, fire alarm circuits and trolley span wires. Made of quality open-hearth steel, cold rolled to give extra strength, tapered Monotube poles are easy to install, and economical to maintain.
and—
PILES...
Simplify the installation of cast-in-place piled foundations because they are so strong they can be driven with average job equipment, because their tubular construction permits quick inspection prior to concreting, and because they can be easily extended on the job to varying lengths.
Write for complete information and catalogs on poles or piles. No obligation.

The UNION METAL Manufacturing Co.
Canton 5, Ohio

"I Did Not See Until It Was Too Late"

Buffalo, N. Y., will give drivers and pedestrians light and expect 30 more of them to stay alive each year.

By HENRY W. OSBORNE
Traffic Advisor
Buffalo Board of Safety

BUFFALO, N. Y., plans for itself a complete new installation of modern street lighting in four annual steps, as was briefly outlined in the October 1943 issue of THE AMERICAN CITY. Now a detailed analysis has been made of night accidents and the type of system which will reduce them. The need is evident from the following traffic fatalities.

TRAFFIC FATALITIES

	Day	*Night*
1938	32	57
1940	21	51
1941	16	67
1942	14	53
1943	19	67
	102	295

Here were 75 percent of our traffic accidents happening at night when there is only 25 percent of the whole day's traffic volume—and note the increase in 1943. In nearly every report made by motor vehicle drivers to the police, involving pedestrian injuries or fatalities at night, the driver stated that he "did not see" or he "did not see until it was too late to avoid the accident."

Light "Worst Streets" First

Our streets have been classified as to principal thoroughfares, those with the "worst" night fatality records heading the list. For example, on Broadway between Main Street and Bailey Avenue there were 3 day and 20 night fatalities, making 23 in the period from 1938 to 1943. On Niagara Street between Elmwood Avenue and Ontario Street there was a total of 26 fatalities, 18 occurring at night. A complete summary showed that there were 60 daylight and 227 night fatalities totaling 287 on 71.77 miles of streets. We have selected our "worst" streets for the modernization program. Our local conditions show the following trends:

1. Night accidents are increasing at an alarming rate.

2. Night traffic is considerably less than the day traffic; yet, it accounts for 74.3 percent of all fatal accidents.

3. Main thoroughfares are many more times dangerous at night than during the day.

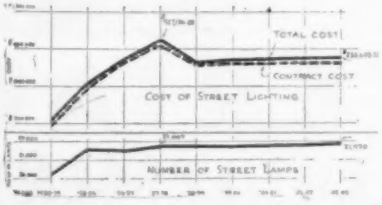
4. Main thoroughfares represent approximately 10.64 percent of all street mileage and are the scene of 75 percent of Buffalo's fatal accidents.

LOCATION AND TIME OF FATALITIES

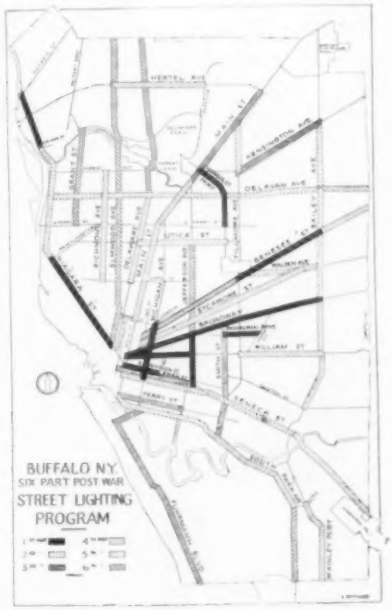
Street	*Day*	*Night*
Broadway	3	20
Niagara	8	18
Main	1	18
Genesee	3	17
Seneca	6	16
South Park	3	14
Bailey	1	12
William	4	11
Delavan	5	10
Elmwood	6	8
Jefferson	1	7
Fuhrman Blvd.	2	7
Delaware	1	7
Sycamore	2	6
Humboldt Pkwy	0	6
Michigan	0	6
Smith	1	5
Utica	2	4
South Div.	1	4
Richmond	0	4
Paderewski	0	4
Kensington	1	4
Swan	2	3
Hertel	1	3
Fillmore	1	3
Perry	0	3
McKinley	0	3
Walden	4	2
Grant	1	2
	60	227

Note the heavy ratio of night accidents to day. On one street it is 7 to 1, on another 18 to 1, on others it is 2 to 1 and 5 to 1. The average for all the streets is 4 to 1.

It will be found in every instance if the Illuminating Enginering Society Code is applied, that the present lighting on these streets is far from adequate. Adequacy will be obtained in some instances by higher mounting heights and proper luminaires to give the most efficient distribution of light, but in many instances, the size of the lamps will have to be increased to give the proper intensities on the pavement. In laying out the modern system, the I.E.S. "Recommended Practice of Street Lighting, 1940" should be used.



The top line designates Buffalo's cost of street lighting; the lower line represents number of street lamps from 1934 to 1943.



Buffalo street lighting improvement program, divided into 6 parts, is scheduled to be carried out in order of importance following the war.

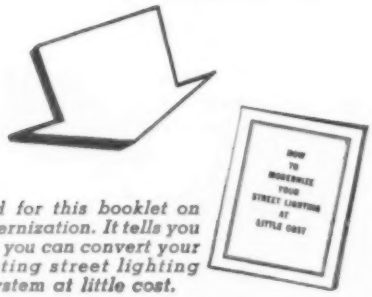
Present System Once a Beauty Now Passé

Twenty years ago, Buffalo had one of the finest street lighting systems in this country. Experts and citizens' committees from many communities came here to see what had been done to beautify the city, protect the citizens, especially persons on foot, and to illuminate areas for general police pro-

L-M LUMINAIRES

BRING OUT-OF-DATE LIGHTING SYSTEMS

UP-TO-DATE



Send for this booklet on modernization. It tells you how you can convert your existing street lighting system at little cost.

L-M modern Luminaires quickly and easily convert out-moded lighting systems . . . give maximum visibility over a much wider area . . . eliminate glare.

Because you can secure the benefits of modern lighting without new poles, new wiring, you should find out how you can modernize right now at little cost, possibly by installation of L-M reflector parts alone.

L-M concealed light source Luminaires are a scientific combination of a reflector and an enclosing refractor element which directs light where it is needed. They are engineered by men with years of experience who can show you how you can change over an out-of-date lighting system to get the utmost light.

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Line Material Company is one of the oldest and largest manufacturers of street lighting equipment. The L-M line of street lighting is complete in every respect—standards, brackets, luminaires, transformers, control and protective equipment.

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For proper maintenance, L-M offers a complete line of Replacement Parts to fit all standard makes of street and protective lighting equipment—reflectors, sockets, porcelain heads, refractors and globes. L-M can supply these replacements on short notice.

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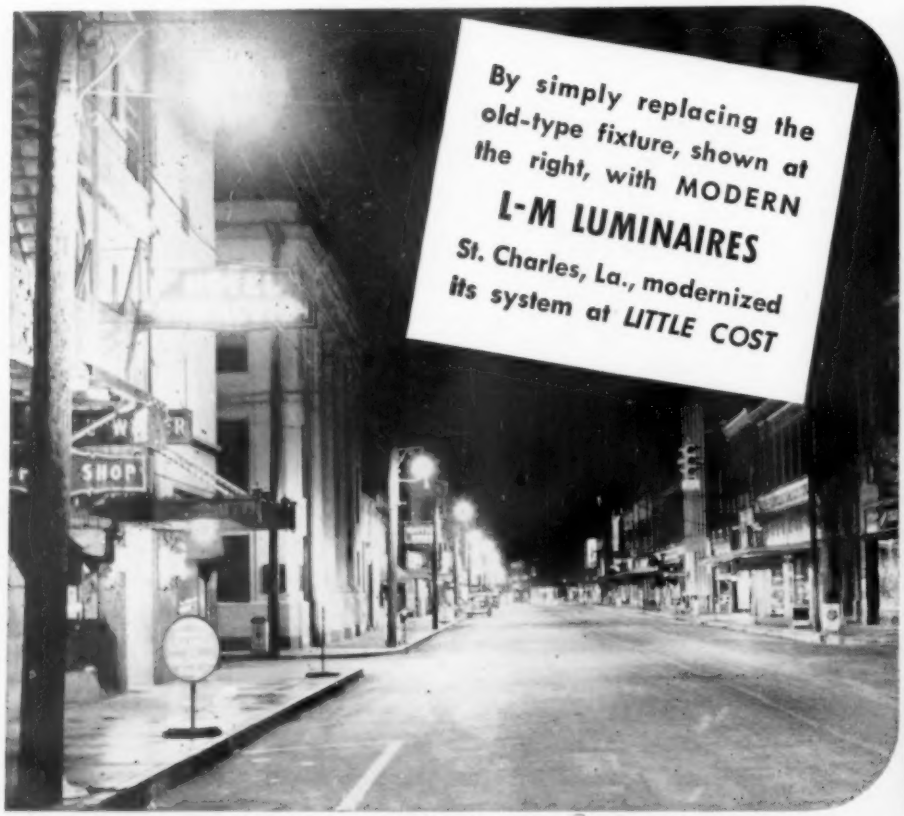
For full information contact your nearest Line Material sales office or write to Line Material Company, Milwaukee, Wisconsin.


By simply replacing the old-type fixture, shown at the right, with MODERN
L-M LUMINAIRES
St. Charles, La., modernized its system at LITTLE COST
SHOP

LINE MATERIAL
STREET LIGHTING EQUIPMENT

L-M DISTRIBUTION EQUIPMENT INCLUDES: Distribution Transformers • Fuse Cutouts and Fuse Links • Lightning Arresters • Oil Switches
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tection. There were fewer motor vehicles then, and night travel was not as active as it is today, and will be after the war.

Inventory of street lamps in service on July 1, 1944, shows 21,883. Of these 14,925 are on city-owned standards which have been in service in most cases for more than 20 years. There are 6,928 of the aerial type luminaires with incandescent lamps: 5,366 of 2,500 lumens and 1,562 up to 6,000 lumens.

According to data gathered by the New York State Bureau of Municipal Information on appropriations for street lighting in 1943, Buffalo, with a population of 576,140, appropriated $893,026 or $1.55 per capita; while for 50 New York cities and towns the average per capita expenditure was $2.16. Thus not only is Buffalo $0.61 below the average cost per capita, but because the equipment is obsolete full service value is not being obtained from the present expenditure.

The cost of maintenance has increased, especially in the last five years. Nearly 600 street-lighting standards are knocked down by traffic yearly, which is a great expense to the community. The lighting standards in the city are going out of service because they cannot and should not be replaced. Though too old for good service, the city should not now spend money to replace all the antiquated equipment. Equipment on the more dangerous streets should be replaced first. The replaced equipment found to be in good condition can serve temporarily as replacement equipment for use in less dangerous areas until they too can be modernized.

The importance of good lighting in effecting reduction in automobile insurance is emphasized by the following:

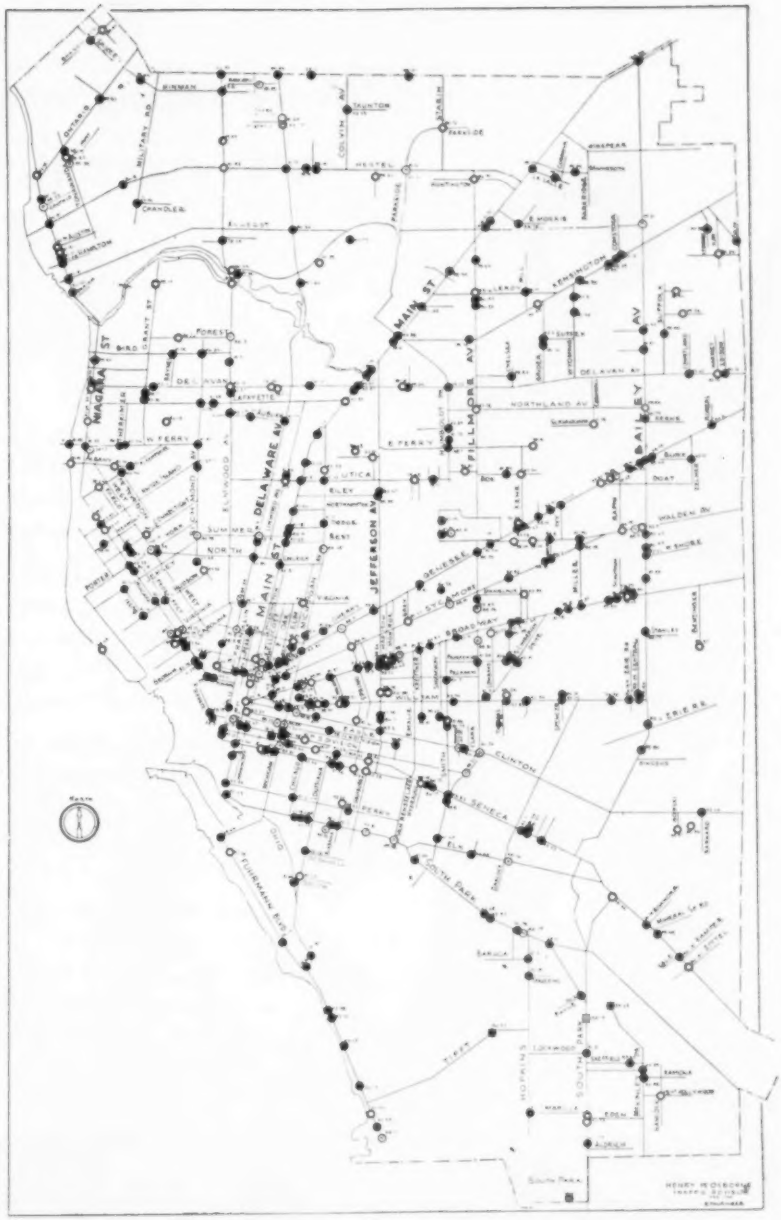
In Detroit, it is estimated that there are 38,800 effective lumens per mile of streets. The night to day traffic fatality ratio was 1.5 to 1 in 1941 against 7 to 1 under old lighting. The public liability and property damage insurance rate on a Buick car was brought down to $23 through the reduction in fatalities.

In Los Angeles, with an estimated effective lumens per mile of 24,500, the night to day ratio was 2.4 and the insurance rate was $29, in 1940.

In Philadelphia, it is estimated that the effective lighting was only 6,280 lumens per mile, and the insurance rate was $50 for the same type of car.

In Buffalo, with 16,937 effective lumens per mile and a night-to-day fatality ratio of 4 to 1, public liability and property damage insurance rate, for a Buick car in 1941 was $37.50.

These figures from a few cities indicate that Buffalo motorists are paying considerably higher premiums for insurance because of local traffic conditions, particularly night traffic conditions. Modernizing the street lighting will not only save lives but probably return the cost of doing it to the taxpayer several fold through lowered car insurance.



Each dot represents location of traffic fatalities in Buffalo 1938-1940-1941-1942-1943. *Open dots indicate day and closed dots, night fatalities.*

Plans for Modernization

In the original proposal for street lighting improvements, it was thought possible that the city would be in a position after the war to modernize on the basis of 1,000 poles per year. This would be the number of poles required for approximately 12 miles of street-lighting improvements. Therefore, the 71.77 miles were divided in six parts. If the city is in a good financial position, it is recommended that parts 1 and 2 be scheduled together, or, if the program can be progressed farther, it would certainly be more satisfactory if at least half of the improvements could be made in the first year or two after the war.

Inspection of the composite map showing the six-part post-war street lighting program indicates concentra-

When Johnny comes marching home

WELCOME HIM TO STAY...

WITH LIGHT!

WHEN millions of young Americans come back from the war an entire generation will examine "home" with eyes made critical by the things they have seen in strange new lands and great modern cities.

How will your town appear to homecoming heroes? Will it look progressive, prosperous? Will it seem like a good place to marry, settle down, raise a family? Will its streets be attractive, clean, bright, *safe* . . . by night as well as by day?

One of the surest signs of a better place to live is street lighting that measures up to modern needs. If poorly lighted streets make your town drab and dull after dark . . . and dangerous, too . . . yours is the opportunity to render a great public service!

Start now. Make your town light, safe, and attractive after dark—a "home" to be proud of. Your town needs boys like Johnny for future leaders. Light is a sign of progressiveness, and will help to hold him. Your local utility will help with a survey of your needs. Then take active steps to meet them!

GOOD STREET LIGHTING—THE SIGN OF A GOOD PLACE TO LIVE

Summary

1. Board of Safety, Mayor's and City Council's Post-War Planning Committees, conceded need for street light modernization.

2. The streets and highways of the city have been classified as primary, secondary, and tertiary systems.

3. Most motor vehicle drivers involved in night accidents report that they *"did not see"* the pedestrians at all, or "until it was too late."

4. Comprehensive study of fatal accidents in the last five years shows "worst" streets and areas by spot map method.

5. 71.77 miles (or 10.63 percent) of 675 miles of streets have been classified as the "worst" thoroughfares.

6. Evaluator and illumination tests show present effective street lighting far below requirements.

7. Buffalo street lighting system was one of the finest 20 years ago and the equipment was the best available at that time.

8. Minimum modernization proposals will improve night travel conditions on key thoroughfares and in focal areas of community activity.

9. Buffalo's per capita cost for lighting was $1.55 in 1943, or $0.61 lower than average for 50 cities and towns in New York State.

10. Some 600 street lighting standards are damaged yearly by motor vehicles. Modernization program will release antiquated equipment for stock pile to replace damaged standards, thus eliminating need to purchase any more old-style parts and fixtures.

11. Modernization cost is estimated at $400,000. It is suggested that overhead circuits be extended, amortization plan of financing be used, and long-term (5-year) contract agreement be made with local utility.

12. It is recommended that the manual, "Recommended Practice for Street Lighting, 1940," issued by the Committee on Street Lighting of the Illuminating Engineering Society, be used in engineering this program.

13. Other cities have improved night travel conditions and accident experience with modern street lighting—*why not Buffalo!*

tion of proposed modernization in the area bounded by Main, Seneca, Jefferson, and Genesee Streets. This is substantiated in a report made by the Accident Committee of the Board of Safety on November 1, 1943.

The effectiveness of a street lighting system depends on a comprehensive knowledge of the requirements, and informed application of the principles of street illumination. It is, therefore, recommended that the manual, "Recommended Practice for Street Lighting 1940," issued by the Committee on Street Lighting of the Illuminating Engineering Society be used in arriving at the details for modernization of Buffalo's street lighting system. This Code should be the yardstick for the engineer who works out the spacing of standards, mounting heights, and the size of lamps necessary for proper illumination of streets with a given width and amount of travel. The engineers should take into consideration future advancements in the technique of traffic safety lighting. These advancements will probably include even higher mounting heights than are used today, and improved asymmetric refractor equipment for more effective light distribution. Study should be given also to the possibility of improvements in light sources, particularly mercury vapor sources, making them more suitable for asymmetric equipment.

Cost of Modernization

Detailed layouts and cost estimated for this program will be prepared by the Niagara Power Company of Buffalo. Their surveys will show the number of street lighting units needed, cost to the city, and the annual cost of operation. If the city is to maintain the policy of owning street lighting standards, the over-all cost is estimated at $400,000. This cost, spread over a period of years, can be financed out of surplus or from parking-meter funds. Or the power company can make the installation and amortize the new system over a ten-year period.

Modernization cost can be held to a minimum by extending the overhead system. Latest techniques in aerial circuits give a good neat job and in many cases, the extension becomes a part of the present overhead power line.

It is suggested that city officials consider a longer term contractual agreement which would accrue benefits to the city and give the company the assurance of continuity of service.

Conclusion

The major objective of lighting for streets and highways is to facilitate the safe movement of traffic, both vehicular and pedestrian. When this purpose is served, other benefits automatically accrue such as civic betterment, protection against assault, stimulation of business and increased capacity of existing roadways.

No other single improvement can be made in the city which will aid more people. Our well-lighted streets will then move night traffic more expeditiously to and from the theatre, shopping centers, libraries, schools and other civic and business activities. Meanwhile, we will be saving lives.

Family Night in Indianapolis

FAMILY Nights are now an important part of the recreation program offered by the Indianapolis Department of Parks, with scheduled entertainment attracting crowds ranging up to 300 at all the larger play areas.

Nine lighted grounds are available during the summer, six of which are in negro neighborhoods. Where adequate lighting is not available, twilight programs are held. Plans are in progress to extend this development to six other parks after the war.

Tennis, roque, croquet, horseshoe, volleyball and shuffleboard tournaments are staged as added attractions, as well as table tennis and basketball. Musical mixers and square dances contribute to the informality, and community singing of familiar songs under an experienced leader provides a welcome change to the more vigorous events. Such evenings are usually topped off with a wiener roast.

Adequate lighting makes possible a more varied program. The Fall Creek playground at Indianapolis, for example, is lighted by fifty 500-watt bulbs in clusters of from one to four on 26 poles about 30 feet high. The play area includes six tennis courts, 10 horseshoe courts, and spaces for shuffleboard, volleyball, roque and croquet. Dancing is possible on the hard-surface tennis courts and musical mixers can be started anywhere on the grass bordering the play area.

Several years ago, as an experiment, some of the larger Family Night gatherings were divided into various age groups. Children of pre-school age listened to story tellers; grade school boys and girls played table games and held table tennis tournaments; parents participated in mixers and square dances. Observations showed, however, that everyone had more fun when they limited their activities to types suitable to all ages and remained in one large group. It is still customary for story tellers and handicraft instructors to keep the children of pre-school age occupied at these gatherings, but everyone else from 6 to 60—and up—play together as any normal family might do on a picnic.

Here's a postwar safety suggestion for congested traffic areas. G-E lamps, with proper equipment and maintenance, can help guard lives at night . . . as in Cleveland's Public Square. Remember, good street lighting is the sign of a good place to live.
. . . Good lamps are the heart of good street lighting
2,500 LUMEN
15,000 LUMEN
TRAFFIC SIGNAL
Get these advantages . . . with G-E!
1. The latest developments of G-E Lamp Research.
2. Lower and lower prices—50% less over last decade.
3. Leadership in street lighting research, to give the public better seeing from street lighting, per dollar.
4. More than 480 tests to assure high quality.
5. Ready availability of a complete line of lamps through nationwide G-E stocks.
THE AIM OF G-E LAMP RESEARCH IS ALWAYS TO MAKE G-E LAMPS Stay Brighter Longer
G-E MAZDA LAMPS
GENERAL ELECTRIC
BUY WAR BONDS AND HOLD THEM

Hear the General Electric radio programs: "The G-E All-Girl Orchestra", Sunday 10 p. m. EWT, NBC; "The World Today" news, every weekday 6:45 p. m. EWT, CBS.

Filling Tidelands for War Housing and Post-War Industry

SAN FRANCISCO today is taking a page from its past to make tomorrow's history.

The West Coast port, now one of the largest in the world, is expanding by filling in its tidelands, a method employed by the hilly city's pioneers to establish a level business and shopping district.

An outlying area of the city, where dump piles, scattered shacks and shallow water stood two months ago, is now being transformed into a site which promises to become one of the West Coast's most ideal post-war industrial localities.

Within a few months, 39 acres of new, level land will have been added to the city's area. Immediately upon completion, 500 demountable houses for war workers will be erected on it.

When those workers leave, when war industries are demobilized, the land can be quickly cleared of the homes.

Ready then will be the city's largest industrial site, with a deep water channel running into it on one side, a railroad siding on the other.

These features will enable whatever private enterprise acquires the land to have both land and sea shipping facilities directly to its plant. Furthermore, even greater expansion is possible by filling in more of the tidelands which already have been subdivided for a distance of two and a half miles into the bay.

This post-war prospect was paramount in the minds of San Francisco Housing Authority officials when they chose the district as a site for additional homes for war workers and planned to utilize pre-fabricated housing which can be demounted easily. These dwellings, the first of this sort in San Francisco, were selected primarily because they require less lumber, and because they can be constructed in a non-critical labor area in a minimum of time. Being constructed under the FPHA program, the houses will be assembled at South Basin and by mid-November 500 families will move into them.

The South Basin site is the second in that area of San Francisco to be filled in recently. The first was the Hunter's Point Naval Drydocks, where part of a hill was leveled to provide five million cubic yards of fill. Required for the new site are 200,000 cubic yards of fill. Filling of the tidelands is in accord with the city's proposed "master plan" for the post-war period.

"This should become an ideal industrial site after the war for development by private enterprise," according to E. N. Ayer, Chairman of the Housing Authority. "The land will be prepared for permanent structures through our use of it for temporary war housing."

LET'S FINISH THE JOB

Personally, and as civic leaders, municipal officials can render important patriotic service by vigorous aid to the 6th War Loan Drive, scheduled for November 20-December 16.

City Manager Appointments

W. GUY ANCELL, city manager of Hopewell, Va., for the past ten years, has been appointed city manager of Covington, Va., effective October 23. He succeeds J. G. Kyle who has been acting manager for more than a year.

OMER BERNIER is town manager of Isle Maligne, Quebec, Canada—a city recently added to the official directory of city manager cities.

O. J. S. ELLINGSON, former city manager of Sherman, Texas, from 1916 to 1932 and for the past three years employed with the WPB at San Antonio, has been appointed city manager of Brownsville, Texas, to succeed James A. Giddings who resigned to take a position with the U. S. Bureau of the Budget.

L. EVERETT GERRISH has succeeded Raymond P. Davis as town manager of Brownsville, Maine.

CARLETON F. SHARPE, manager of St. Petersburg, Fla., from January 1934 to July 1935, returned to that post on October 1. Mr. Sharpe comes from the post of director of the regional FPHA office in Cleveland. He succeeds Raymond G. Ridgely who returns to his former position as Superintendent of the Water Supply Department.

T. EDWARD TEMPLE, former director of safety for the Hercules Powder Company, has been appointed city manager of Hopewell, Va., effective November 1.

SAMUEL E. VICHER, city manager of Long Beach, Calif., succeeded Herbert C. Legg who resigned to become U. S. Area Representative of Los Angeles area for the Committee for Congested Production Areas.

PAUL B. WILCOX, one-time secretary of the New Haven, Conn., Taxpayers Association, has been appointed acting city manager of Coronado, Calif. He succeeds R. W. Rink who resigned to become assistant manager at San Diego, Calif.

ALBERT WILSON has been appointed city manager of Kinsley, Kans., to succeed W. H. Craft.

CLARENCE E. RIDLEY
Director, International City Managers' Association

The Municipal Bond Market

Some sales of new issues as reported in October issues of *The Bond Buyer*:

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$200,000	Newton, Mass., Street Improvement	1.0	1-10 Ser.	.973
300,000	Minneapolis, Minn., Public Relief	1.10	1-10 Ser.	1.062
1,960,000	Minneapolis, Minn., Refunding	1.10	1-10 Ser.	1.066
396,000	Nashville, Tenn., Street Improvement	1.10	16.25 Avg.	1.222
100,000	Belleville, N. J., Public Improvement Funding	1.30	6.66 Avg.	1.292
2,050,000	Baltimore, Md., Fifth School	2.5	4 Avg.	1.311
884,000	Akron, O., Refunding	1.5	6.5 Avg.	1.34
150,000	Cranston, R. I., Refunding	1.5	10.17 Avg.	1.38
3,000,000	Portland, Ore., Sewage Disposal	1.0	6-10 Ser.	1.498
110,000	Geneva-On-The Lake, O., Refunding	1.75	4.33 Avg.	1.588
362,000	Fort Worth, Tex., Street Improvement, Series 69	1.5	15.83 Avg.	1.665
150,000	Tacoma, Wash., Water Revenue of 1944 (Callable)	2.5	6 Avg.	1.694
155,000	Bridgeton, N. J., Sewer	4.5	8.75 Avg.	1.90
322,000	Newark, N. J., Street Opening, Series B	5.25	13.33 Avg.	2.02

Plan Adequate

FIRE ALARM BOX DISTRIBUTION

FOR PROTECTION OF LIFE AND PROPERTY

DELAYED ALARMS

constitute that most potent factor in your annual fire loss

INADEQUATE BOX DISTRIBUTION

the prime cause of delayed alarms exists when a citizen must traverse a greater distance to reach a box than the recognized standard a good box distribution provides.

Pedestals with indicating lights promote visibility and contribute to speed in sending alarms.

The Gamewell Three-Fold Fire Alarm Box, Non-interfering and successive — reliably transmits alarms though circuit is broken or otherwise disordered.

THE STANDARD

not more than 300 feet in congested high-value districts, 500 feet in closely-built residential districts and 1000 feet in sparsely-settled districts.

•

IF YOUR CITY

is deficient in this respect, why not make adequate provision in your Post-War Plans?

•

THE GAMEWELL COMPANY

NEWTON UPPER FALLS MASSACHUSETTS

Conventions—When and Where

Nov. 14-15—Richmond, Va.
AMERICAN WATER WORKS ASSOCIATION—VIRGINIA SECTION. Annual Conference. (Hotel John Marshall.) Sec., W. H. Shewbridge, State Department of Health, Richmond, Va.

Nov. 14-15—Watertown, S. D.
LEAGUE OF SOUTH DAKOTA MUNICIPALITIES. Annual Convention. (Hotel Lincoln.) Sec., R. D. Falk, University of South Dakota, Vermillion, S. D.

Nov. 14-15—Watertown, S. D.
SOUTH DAKOTA WATER AND SEWERAGE WORKS CONFERENCE. Annual Meeting. (Hotel Lincoln.) Sec.-Treas., Glen J. Hopkins, Dir., Division Sanitary Engineering, State Board of Health, Pierre, S. D.

Nov. 16-17—New York, N. Y.
NEW JERSEY STATE LEAGUE OF MUNICIPALITIES. Annual Conference. (Hotel New Yorker.) Exec. Sec., James J. Smith, 808 Trenton Trust Bldg., Trenton, N. J.

Nov. 16-18—St. Petersburg, Fla.
AMERICAN WATER WORKS ASSOCIATION—FLORIDA SECTION. Annual Convention. (Hotel Suwanee.) Sec., Dr. A. P. Black, Prof., Agricultural Chemistry, University of Florida, Gainesville, Fla.

Nov. 20-21—Columbia, Mo.
MISSOURI MUNICIPAL LEAGUE. Wartime Conference. (Hotel Tiger.) Dir., Bruce J. Carl, Municipal Bldg., Columbia, Mo.

*Nov. 20-21—Oklahoma City, Okla.
OKLAHOMA MUNICIPAL LEAGUE. Annual Convention. (Hotel Huckins.) Exec. Sec., David Fudge, P. O. Box 1214, Oklahoma City, Okla.

Nov. 20-22—Oklahoma City, Okla.
OKLAHOMA SHORT SCHOOL FOR WATER WORKS OPERATORS. (Water Treatment Plant.) Sec.-Treas., H. J. Darcy, State Sanitary Engineer, Oklahoma City, Okla.

Nov. 27-30—Cincinnati, Ohio
AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS. Annual Meeting. (Hotel Netherlands-Plaza.) Exec. Sec., H. H. Hale, 1220 National Press Bldg., Washington, D. C.

Nov. 27-Dec. 1—New York, N. Y.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Annual Meeting. (Hotel Pennsylvania.) Exec. Asst. Sec., Ernest Hartford, 29 W. 39th St., New York 18, N. Y.

Dec. 6-8—Cleveland, Ohio
NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS. Annual Conference. (Hotel Statler.) Exec. Dir., Charles S. Rhyne, 730 Jackson Pl., NW, Washington, D. C.

Dec. 7-8—Jacksonville, Fla.
FLORIDA LEAGUE OF MUNICIPALITIES. Annual War Conference. (Hotel George Washington.) Sec.-Treas., E. P. Owen, Jr., 1707 Barnett Nat'l. Bank Bldg., Jacksonville, Fla.

Dec. 7-9—Harrisburg, Pa.
LEAGUE OF CITIES OF THE THIRD CLASS IN PENNSYLVANIA. Annual Convention. (Hotel Penn Harris.) Treas., Louis G. Heinle, City Hall, New Kensington, Pa.

Dec. 12-13—Chicago, Ill.
NATIONAL COUNCILS OF STATE AND LOCAL PUBLIC WELFARE ADMINISTRATORS. Annual Meeting. (Hotel Edgewater Beach.) Sec., Howard L. Russell, 1313 E. 60th St., Chicago.

Jan. 5-6—Boston, Mass.
MASSACHUSETTS SELECTMEN ASSOCIATION. Annual Meeting. (Gardner Auditorium-State House.) Exec. Sec., Axel E. Zetterman, Ashland, Mass.

Jan. 7—Cheyenne, Wyoming
LEAGUE OF WYOMING MUNICIPALITIES. Annual Meeting. (Hotel Plains.) Exec. Sec., G. R. McConnell, Laramie, Wyo.

Jan. 16-19—Chicago, Ill.
AMERICAN ROAD BUILDERS' ASSOCIATION. Annual Meeting. (Hotel Stevens.) Charles M. Upham, 952 International Bldg., Washington.

Jan. 17—New York, N. Y.
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. Mid-Winter Meeting. (Hotel Pennsylvania.) Sec., R. K. Blanchard, 50 W. 50th St., New York 20, N. Y.

*Jan. 17-19—New York, N. Y.
AMERICAN SOCIETY OF CIVIL ENGINEERS. Annual Meeting. (Hotel Commodore.) Sec., George T. Seabury, 33 W. 39th St., New York.

Jan. 19—New York, N. Y.
NEW YORK STATE SEWAGE WORKS ASSOCIATION. Annual Meeting. (Hotel Pennsylvania.) Sec.-Treas., A. S. Bedell, c/o State Department of Health, Albany, N. Y.

Jan. 22-26—New York, N. Y.
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS. Winter Technical Meeting. (Engineering Societies Building.) Sec., H. H. Henline, 33 West 39th St., New York 18, N. Y.

Jan. 29-31—Lafayette, Ind. (Correction)
PURDUE ROAD SCHOOL. (Purdue Memorial Union.) R. B. Wiley, School of Civil Engineering, Purdue University, Lafayette, Ind.

*Feb. 5-7—College Station, Texas
TEXAS WATER WORKS & SEWERAGE SHORT SCHOOL. Annual Short Course. (Texas A. & M. College.) Sec., V. M. Ehler, Austin, Texas.

*Feb. 19-20—New York, N. Y.
NATIONAL PUBLIC HOUSING CONFERENCE. Annual Meeting. (Hotel New Yorker.) Exec. Vice-Pres., Lee F. Johnson, 414 Bond Bldg., Washington 5, D. C.

*Feb. 27-Mar. 1—Grand Rapids, Mich.
CONFERENCE ON HIGHWAY ENGINEERING. Annual Highway Conference. (Hotel Pantlind.) Sec., R. L. Morrison, University of Michigan, Ann Arbor, Mich.

Feb. 28-Mar. 2—New York, N. Y.
ASSOCIATION OF HIGHWAY OFFICIALS OF NORTH ATLANTIC STATES. Annual Conference. (Hotel Pennsylvania.) Sec.-Treas., A. Lee Grover, c/o State Highway Dept., Trenton, N. J.

*Mar. 9-10—Minneapolis, Minn.
AMERICAN WATER WORKS ASSOCIATION—MINNESOTA SECTION. Annual Conference. (Hotel Nicollet.) Sec.-Treas., R. M. Finch, Wallace & Tiernan Co., Inc., 416 Flour Exchange, Minneapolis, Minn.

*Mar. 21-23—Toronto, Ont.
AMERICAN WATER WORKS ASSOCIATION—CANADIAN SECTION. Annual Convention. (Hotel Royal York.) Sec., Dr. A. E. Berry, c/o Ontario Department of Health, Parliament Bldg., Toronto, Ont., Canada.

* First appearance on this page.

Officers Elected at Recent Conventions

Federation of Sewage Works Associations

Pres., A. E. BERRY, Toronto, Canada
Vice-Pres., J. X. HOSKINS, Washington, D. C.
Treas., W. W. DEBERARD, Chicago, Ill.
Exec. Sec., W. H. WISELY, Champaign, Ill.

Illuminating Engineering Society

Pres., S. B. WILLIAMS, 330 W. 42nd St., New York 18, N. Y.
Junior Past-Pres., R. B. BROWN, JR., Boston Edison Co., Boston 12, Mass.
HOWARD M. SHARP, Buffalo, Niagara & Eastern Power Corp., Buffalo 3, N. Y.
Vice-Pres., A. F. WAKEFIELD, F. W. Wakefield Brass Co., Vermilion, Ohio
G. K. HARDACRE, Public Service Co. No. Ill., Chicago 3, Ill.
Gen. Sec., LEE E. TAYLOR, Detroit Edison Co., Detroit 26, Mich.
Treas., JAMES M. KETCH, General Electric Co., Nela Park, Cleveland 12, Ohio
Exec. Sec., A. D. HINCKLEY, 51 Madison Ave., New York 10, N. Y.

American Transit Association

Pres., COL. ROANE WARING, Pres., The Memphis Street Railway Co., Memphis, Tenn.
Vice-Pres., GORDON G. STEELE, Pres., Portland Traction Co., Portland, Oregon.
Treas., E. A. TUSON, General Auditor, Public Service Coordinated Transport, Newark, N. J.

International City Managers' Association

Pres., J. R. FRENCH, City Manager, Verdun, Quebec
1st Vice-Pres., BILL N. TAYLOR, City Manager, Port Arthur, Texas
2nd Vice-Pres., H. A. YANCEY, City Manager, Greensboro, N. C.
3rd Vice-Pres., E. M. SHAFTER, City Manager, Royal Oak, Mich.

International Municipal Signal Association, Inc.

Pres., G. E. WOOD, City Electrician, Houston, Texas
1st Vice-Pres., JOHN J. ALLES, Wilkes-Barre, Pa.
2nd VicePres., WM. F. QUALLS, South Bend, Ind.
3rd Vice-Pres., ADIN W. CHASE, Niagara Falls, N. Y.
Sec., IRVIN SHULSINGER, New York, N. Y.
Treas., CHARLES S. DOWNS, Altoona, Pa.

Institute of Traffic Engineers

Pres., HAROLD F. HAMMOND
Vice-Pres., THOMAS J. SEBURN
Sec.-Treas., WILBUR S. SMITH

National Safety Council, Inc.

Pres., NED H. DEARBORN, National Safety Council, Inc., Chicago 6, Ill.
Vice-Presidents include the following:
Vice-Pres. for Local Safety Organization, JUDGE LEE E. SKEEL, Appellate Court, Cleveland, Ohio
Vice-Pres. for Traffic and Transportation, LESLIE J. SORENSON, City Traffic Engineer, Chicago, Ill.
Gen. Sec., R. L. FORNEY, National Safety Council, Inc., Chicago 6, Ill.
Treas., I. W. MILLARD, Pres., Industrial Gloves Co., Danville, Ill.
Asst. Treas., B. B. MCCULLACH, Pres., Bureau of Safety, Inc., Chicago 6, Ill.
H. H. GREENWALD, Dir., Accounting Division, National Safety Council, Inc., Chicago 6, Ill.

Modern School Architecture—Exhibit and Slides

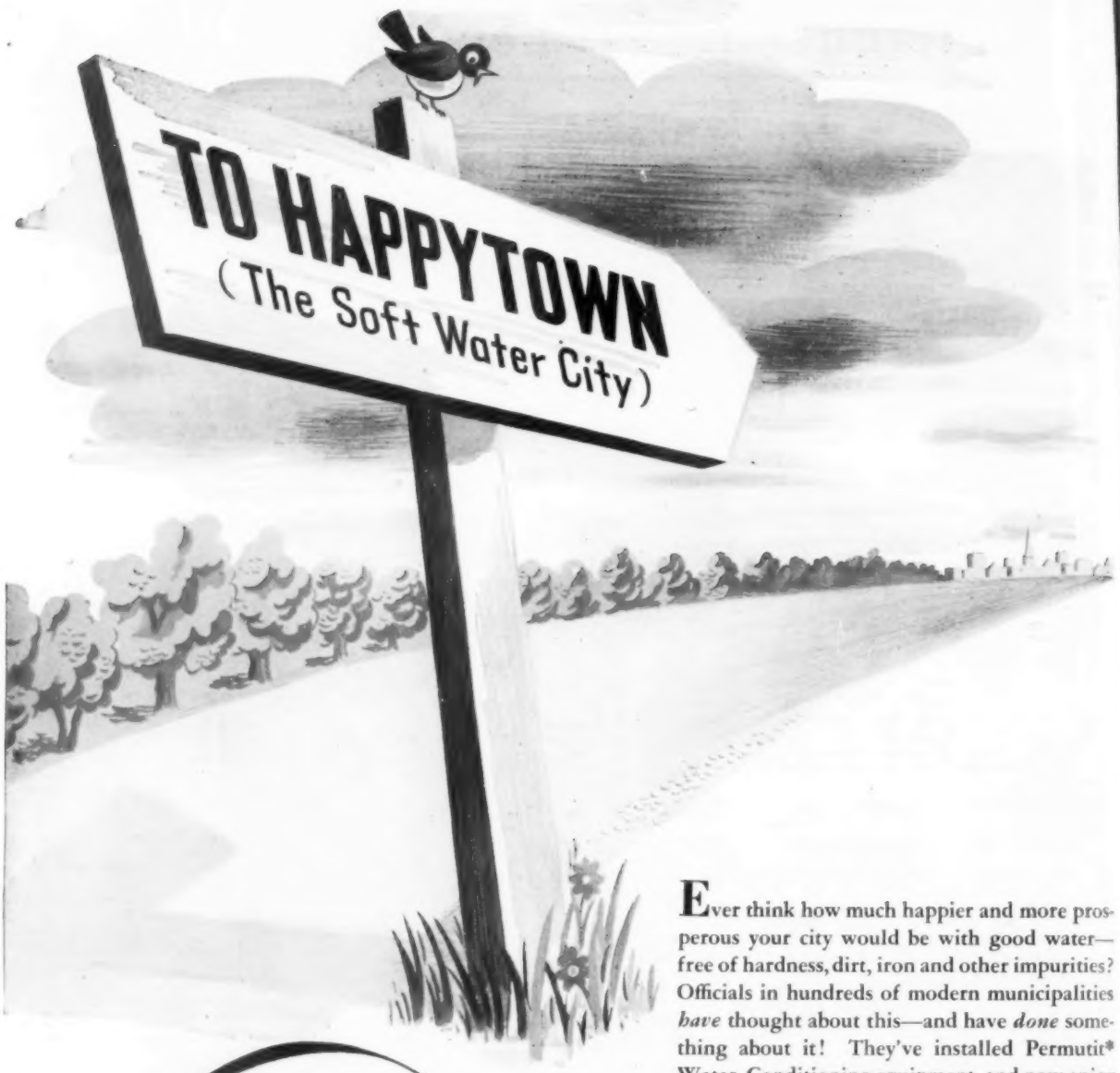
Looking toward post-war building, the Museum of Modern Art has prepared a well-rounded presentation of modern school architecture through a slide talk, exhibition, and publication. These seek to lay a basis for a sound building policy based on the psychological needs of the child and the requirements of the modern educational system.

The exhibition, "Modern Architecture for the Modern School," presents the subject through 40 enlarged photographs, a scale model, and 30 panels with drawings, photographs and explanatory labels. Rental fee for three weeks is $40.

Also available, at 5c a copy, is a reprint of an article, "Schools Are for Children" (6 pages with illustrations).

A slide talk of the same title is offered in conjunction with the exhibition. It consists of 48 black-and-white slides (3¼ x 4") and text to be read as the slides are projected or used as notes. Rental fee is $5 a week, purchase price, $35.

Of value to architects, students, post-war planning groups, and Boards of Education, these services may be obtained through the Museum of Modern Art, 11 West 53d St., New York.



Ever think how much happier and more prosperous your city would be with good water—free of hardness, dirt, iron and other impurities? Officials in hundreds of modern municipalities *have* thought about this—and have *done* something about it! They've installed Permutit* Water Conditioning equipment, and now enjoy soft, clear water from every faucet in town.

Put this postwar improvement at the head of your list—and earn the eternal gratitude of your citizens. Get the facts now about Permutit's economical equipment. Write to The Permutit Company, Dept. G3, 330 West 42nd Street, New York 18, N. Y., or Permutit Company of Canada, Ltd., Montreal. *Trademark Reg. U. S. Pat. Off.

SOFT, CLEAR WATER FOR MODERN CITIES . . . IN 5 MINUTES!

The "Spiractor" for cold lime soda water softening cuts detention time to as low as 5 minutes, leaves no sludge, makes big savings in steel and space.

PERMUTIT

WATER CONDITIONING HEADQUARTERS

Municipal and Civic Publications

Architecture and City Planning

NEW ARCHITECTURE AND CITY PLANNING. *A Symposium edited by Paul Zucker. Philosophical Library, Inc., 15 East 40th Street, New York, N. Y.* 1944. *xv* + 694 *pp.* $10.

It is hard to imagine a forward-looking architect or city planner trying to keep house or practice his profession without this timely and imposing symposium. Its 59 authors run the alphabetical gamut from Abrams and Aiken to Yourkevitch and Zucker. There are 10 chapters in the section on Specific Building Types; 10 on New Materials and New Construction Methods; 9 on Housing; 15 on City and Regional Planning; 5 on the Problem of a New Monumentality; and 7 on Education.

Each of the contributing authors approaches his specific problem on the basis of his practical experience in the field. Thus, all phases of planning are discussed herein with a factual and experimental research basis.

Early Apostle of City Planning

PATRICK GEDDES: MAKER OF THE FUTURE.—*By Philip Boardman. Introduction by Lewis Mumford. University of North Carolina Press, Chapel Hill, N. C.* 1944. 504 *pp.* $5.

This is the life of Patrick Geddes, a Scotsman, one of the original geniuses produced by Great Britain. Although primarily a naturalist, he was among the foremost philosophers and sociologists of his time and a dynamic exponent of the inter-relation of life in its varied aspects. While still a young professor at the University of Edinburgh, he became a pioneer in slum clearance and over the years he vastly influenced the whole development of slum clearance and city planning, and the philosophy surrounding it.

In the early 1900's he was advocating regional surveys and urging cities to study their past heritage and present burdens before trying to plan their future. From 1914 to 1924 Geddes was both apostle and engineer of the new city planning in Great Britain, Palestine, and India, where he applied his simple principles of "diagnosis before treatment," and "constructive surgery." In 1923 he visited the United States and urged the Regional Plan Association of New York to plan in terms of the common people. In his last years (he died April 17, 1932) he called for a Peace-War in which the militant energies of the race would engage in "adventures of constructive peace," to rehabilitate areas devastated not only by war but also by economic strife—to abolish slums as well as battlefields.

Post-War National Income

POST-WAR NATIONAL INCOME—ITS PROBABLE MAGNITUDE.—*By Joseph Mayer. The Brookings Institution, Washington 6, D. C.* 1944. 34 *pp.* 50c.

The fifth of a series of studies by The Brookings Institution on problems of post-war readjustment. This analysis by Joseph Mayer seeks to clarify the concept of national income and to determine the probable level in the first reasonably settled post-war year—assumed, in this study, to be 1947.

There have been many crude estimates as to just what figure the net national income—not to be confused, Mr. Mayer points out, with gross national income—will reach. According to the author, the most logical sum, taking into consideration a drop in the earnings of self-employed professional and business men and wage and salary workers due to a return to the 40-hour week and some downgrading, the increase in interest payments resulting from the growth in the public debt, and the fact that agricultural prices will be around parity levels and the volume of farm production will have declined somewhat—taking all these things into consideration—Mr. Mayer would estimate the net national income for 1947 at 127 billion dollars, as compared with 80.4 billion in 1940, without deducting the direct, corporate, and personal taxes.

Planning of Water and Sewerage Systems

WATER AND SEWERAGE SYSTEMS IN INDIANA: THE PLANNING OF FUTURE CONSTRUCTION NOW.—*By John E. Stoner and Pressly S. Sikes. Bureau of Government Research, Department of Government, Indiana University. Indiana State Board of Health, 1098 W. Michigan St., Indianapolis 7, Ind.* 79 *pp.* 18 *tables.*

A practical handbook for policy formers to help them to decide whether or not a water or sewerage improvement is needed by their municipalities and if they have the legal authority to finance the necessary construction, and to point out the procedures to be followed in various cases. The role of the engineer-technician and of the city attorney are examined, with special emphasis on their relation to the policy former or responsible municipal official when the question is whether or not to undertake a particular project. Once this stage is passed the plan must be outlined: the chapter "Suggestions for Getting Started" provides a guide for this step.

As a further aid for Indiana officials, there are included, at the end of the booklet, a number of charts which list the cities and towns of the state with data as to their individual sanitary and fiscal conditions.

(*See pages 9 and 97 of this issue.*)

City Financial Statistics

CITY FINANCES: 1942.—*Prepared under the supervision of E. R. Gray, Chief, Governments Division, Bureau of the Census, Department of Commerce, Washington 25, D. C.* 1944. *ix* + 224 *pp.* $1.

Contains individual city reports for each of the larger cities, topical reports of cities over 25,000 on revenue, debt, and expenditure, and a statistical compendium. This report for 1942 reflects the changes which defense activity have effected on the functions and finances of these 397 American cities in which two-thirds of the entire national population resides. *City Finances: 1942* is a companion to *State Finances: 1942* and *County Finances: 1942*. (See THE AMERICAN CITY, *October* 1944, p. 131.)

Bibliography on Outdoor Theatres

A LIST OF REFERENCES ON OUTDOOR THEATRES. *Library of the Departments of Landscape Architecture and Regional Planning, Harvard University. Katherine McNamara, Librarian. September 20,* 1944. *Mimeo.* 3 *pp.*

Bibliography giving foreign and domestic sources for material on outdoor theatres. Refers the researcher to magazines, books, and photographs of various theatres both here and abroad. References run from 1918 to 1941.

Rehousing New York's Population

UPLIFTING THE DOWNTRODDEN.—*By William Lescaze. Revere Copper and Brass, Inc., 230 Park Avenue, New York, N. Y.* 15 *pp. Illus.*

Proposing the "superblock" as a means of rehabilitating a certain area in New York City. The area chosen to provide this case history is that bounded on the north by 126th Street, on the south by Central Park, and on the west and east by Morningside Park and Fifth Avenue respectively. The superblock is an arrangement of buildings to eliminate all but a few of the cross streets and to provide a more intergrated zoning solution. Buildings are turned at an angle of approximately 30 degrees to the avenues so as to insure a maximum amount of sunlight for all apartments, and fewer building units are utilized.

Adoption of the superbuilding unit plan will in no way displace any of the population now residing in the sample area, but will only increase the "livability" of the area, and provide lower cost housing. We must always bear in mind, the author urges, that our buildings must not be designed in conformity with known and worn out formulas "but rather in anticipation of tomorrow's needs."

Future of Aviation

SKYWAYS OF TOMORROW.—*By Burnet Hershey. Headline Series, No. 47. Foreign Policy Association, 22 E. 38th Street, New York 16, N. Y. August* 1944. 96 *pp. Illus.* 25c.

A survey of the future of air transport from the standpoints of technical possibility, probable commercial routes—their ownership and operation—air bases, and international law. Contains an interesting discussion of the role that the various world powers will play in the coming "air age," and the obstacles which must be overcome to enable every country to gain maximum utility of the airplane. Mr. Hershey warns the reader not to take too seriously "prophesies" that the plane of the future will be built to accommodate 300 or 400 passengers, along with baggage, mail, express, and fuel. We must bear in mind that the air traveler is interested in *speed*, and he is more than willing to make flights with less elegance but greater frequency, he holds.

Air Raids and Civilian Defence

AIR RAIDS AND CIVILIAN DEFENSE.—*By L. M. Chitale. The Manager, ARCD Publications, 97 Lloyds Road, Cathedral P.O., Madras, India. Illus.* 636 *pp.* 21 *shillings (postage extra).*

This book, enlarged in its Third Edition, is designed to keep the Indian public and responsible authorities informed of the latest developments and measures necessary for air defense. Although all available information and data have been examined and incorporated to suit Indian conditions, civilian defense officials of other countries, too, will find the chapters on Air Attacks, Prevention and Escape, Evacuation and Disposal, Civil Defense Organization and Education, etc., informative and worthwhile.

CED Aids Local Planning

BEAUMONT COMMITTEE FOR ECONOMIC DEVELOPMENT PLANS FOR POST-WAR OPPORTUNITIES.—*Beaumont Chamber of Commerce, Beaumont, Texas.* 1944. *Illus.* 35 *pp.*

An illustrated report of the techniques and principles applied by the Committee for Economic Development to secure post-war employment and expansion in private industry in Beaumont. The local CED seeks to coordinate the efforts of private enterprise in attaining this goal; it is made up of an executive committee with its chairman and secretary, and six subdivisions: industry, commerce, agriculture, special problems of small business, research, and public relations. The Chamber of Commerce and the CED have many members in common and the work of the two organizations has been coordinated in many cases.

Social Service Needs

SOCIAL SERVICES IN WARTIME.—*Edited by Helen R. Wright, University of Chicago Press, Chicago, Ill.* 1944. 201 *pp.* $2.

Present status and perspective for social service as seen by authorities in the field. Jane Hoey, Director, Bureau of Public Assistance, Social Security Board, and Katherine Lenroot, Chief, Children's Bureau, U. S. Department of Labor, discuss effect of war upon the Public Assistance program and social work with children. Other phases of social service reported are Travelers' Aid, federal financing of social work, and the Red Cross; the importance of food in the peace is pointed out by Clarence Pickett of the American Friends Service Committee.

In the final chapter Edith Abbott, University of Chicago, stresses the need for improving our standard of living to do away with destitution and its consequences—ill health and delinquency; the need for making assistance available to individuals other than those who pass a "means" or eligibility test; of extending social services to all groups, thus preventing the development of public charges, and finally, of expanding the Child Welfare services.

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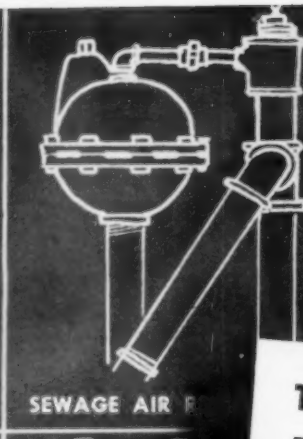

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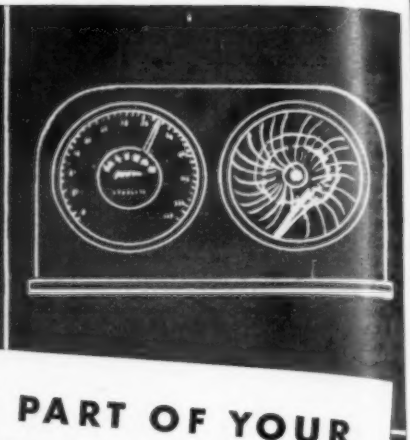

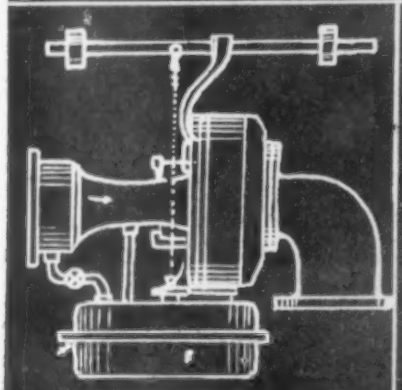

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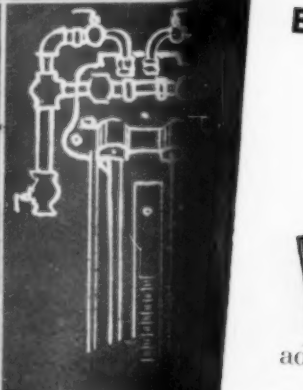

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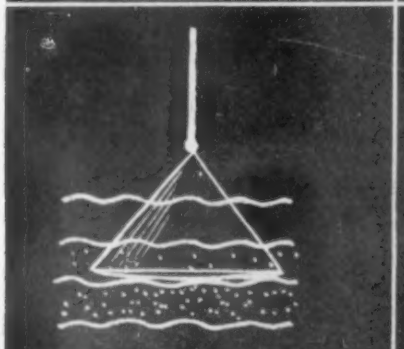

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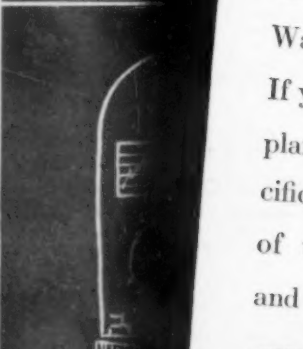

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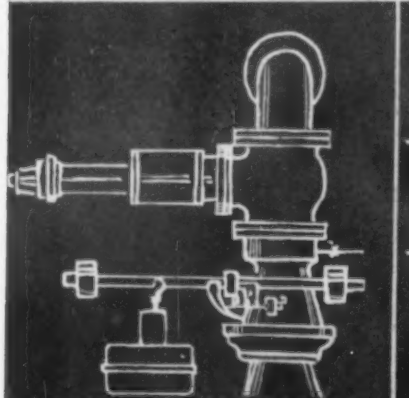

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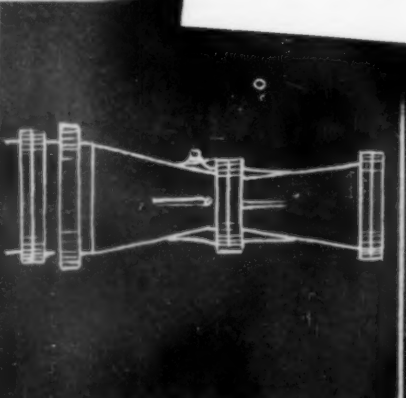

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Urban Redevelopment

URBAN REDEVELOPMENT LEGISLATION.—*By Alfred Bettman. Address delivered at Citizens Conference on Planning, St. Louis, Mo., June 14, 1944. American Planning and Civic Association, 901 Union Trust Bldg., Washington, D. C. 11 pp.*

A review of the task of urban redevelopment with emphasis on enabling legislation in the various states and the provisions for and enforcement of the ensuing plan. One of the main misconceptions concerning urban redevelopment, says the author, is to take it to refer merely to buildings. If this were the case, there would be no need for the public aid and participation demanded. What urban redevelopment does mean is a basic change in the functional uses for buildings related to the determination of the land uses of the whole city—in other words, developing an urban area with a master plan, based on a concept of the whole and the interrelationship of the various parts. New York fails, as do other states, writes Mr. Bettman, through loose wording in its redevelopment corporations statute, to require the necessary comprehensive master plan.

As for actual implimentation, modification, and financing of the plan, again the author gives the statutory provisions of different states, along with his own ideas of the most desirable methods to be pursued.

Planning for Cities of 50,000 or Less

PLANNING FOR THE SMALL AMERICAN CITY.—*By Russell Van Nest Black. Public Administration Service, 1313 E. 60th Street, Chicago 37, Ill. 1944. revised. 86 pp. $1.*

First published in 1933 and revised in 1936, this 1944 edition of Russell Van Nest Black's monograph is still one of the soundest references in the techniques, methods, and policies of planning for the American city of 50,000 or less. There are three sections—Making the City Plan, What Modern Planning Offers the Small City, and Carrying Out the City Plan. Mr. Black does not write in vague generalities. Here are concrete suggestions, in simple, non-technical language, addressed to operating officials and interested citizens of the average small city on how to make a plan, what considerations to bear in mind, and how to carry them through.

Determination of Rates

THE ESTABLISHMENT AND ADMINISTRATION OF A "PRUDENT INVESTMENT" RATE BASE.—*By John Bauer. Reprinted from the Yale Law Journal, Vol. 53, No. 3. June 1944. 18 pp.*

A paper on the basis for rate making, the subject of so many Supreme Court cases from the *Smyth v. Ames*, 169 U. S. 466 (1898) and its "fair value" decision to the present. The author criticizes rate determination based on the cost of reproduction as being arbitrary and subject to too many interpretations, and offers in its stead a rate based on original cost minus depreciation.

The courts, states Mr. Bauer, must be relieved of this regulation which rightfully belongs to the Federal Power Commission. The duties of the Commission will be to make pragmatic adjustments, whereas the jurisdiction of the Court should extend to cases where the limits of due process appear to have been overstepped—where the question is one of *result*, not of *method*. The author urges widespread acceptance of this principle which is embodied in the decision in the recent case of *Federal Power Commission v. Hope Natural Gas Company*, 320 U. S. 591 (1944).

The main characteristic that any method of determining a rate base must have is administrability and this can best be achieved, Mr. Bauer summarizes, by (1) the adoption of a precise concept, (2) exact determination of initial amounts, (3) continuous factual adjustments [to be made by the power commissions] as changes in the operating properties take place in order that accounts and records may show definitely at any time the amount on which the company is entitled to receive a reasonable return, (4) the rate of return in relation to the rate base should be determined continuously in order to furnish the amount or return to be included in the fixing of rates.

Community Planning

YOUR STAKE IN COMMUNITY PLANNING. *National Committee on Housing, Inc., 512 Fifth Avenue, New York 18, N. Y. October 1944. 27 pp. Illus. 35c.*

A cleverly illustrated and convincingly written argument for a master plan. The Committee sets forth the advantages to be gained by small and large operative builders, lending institutions, the consumer, and the municipality. Builders and lender, the pamphlet contends, must be taught to realize that community planning "reduces risk, slows down deterioration, widens the market, and safeguards their investment over the years." It is the builder with the long range vision who makes the profit, just as it is the planning municipality which will have the fewest tax relinquent and blighted areas.

There are valuable pointers in this little pamphlet for the consumer to take into consideration before buying a home. The home-buyer should check for these items—neighborhood plan, home site, and other factors such as tax rate and services rendered by the city, character of development maintenance, and deed restrictions.

(*See page 91 of this issue.*)

Survey of Los Angeles

LOS ANGELES: ITS PEOPLE AND ITS HOMES.—*By Earl Hanson and Paul Beckett. The John Randolph Haynes and Dora Haynes Foundation, 2324 Figueroa St., Los Angeles, Calif. 1944. 206 pp.*

The social composition of Los Angeles and the city's housing resources are surveyed, the source for most of the statistical material being the 1940 census. Such factors as the growth and decline of population, levels of education, age distribution, population and housing densities, the location of minority populations, and the age and condition of housing should be of inestimable value to educators, city planners, welfare workers, housing officials, etc., in plotting future activities in Los Angeles. In setting forth all these factors, the authors have compared Los Angeles to other cities throughout the country, finding that it is the fastest growing of the five largest cities of the United States, that it has a remarkably low density of population (except for the Mexican and Oriental districts) that iis housing is younger than the housing of any other city included in the comparison, and that its growth pattern is an outstanding example of modern urban decentralization. These are but a few of the many conclusions drawn by the authors of this comprehensive survey.

Post-War Peace and Security

POST-WAR PLANNING FOR PEACE AND FULL EMPLOYMENT.—*Symposium by Hon. Walter Nash, Thurman Arnold, John L. Childs, Emil Rieve, J. King Gordon, Norman Thomas, and Charles Abrams. Edited by Harry W. Laidler. League for Industrial Democracy, 112 E. 19th Street, New York 3, N. Y. 1944. 64 pp. 25c.*

Here are many and varied proposals for achieving peace and economic security in the post-war world—proposals from an international labor statesman, a prominent federal judge and trust buster, two well-known representatives of the AFL and the CIO, an editor of a liberal weekly, a socialist leader, and an authority on public housing. The Hon. Walter Nash, President of the International Labor Conference, stressed international cooperation based upon mutual trust and a desire to improve the standard and living of all countries. Messrs. Rieve and Childs of the CIO and AFL, respectively, expressed the need for public planning and government participation, as well as private enterprise, to insure post-war full employment and national well-being. Charles Abrams, member of the Board of the National Public Housing Conference, warns of the threat to public housing if private realtors, instead of public housing agencies, secure government subsidies and along with them public powers such as police, eminent domain, and taxing powers.

Annual Meeting of the Highway Research Board

HIGHWAY RESEARCH BOARD. PROCEEDINGS OF THE TWENTY-THIRD ANNUAL MEETING: 1943.—*Editors, Roy W. Crum and Fred Burggraf. Division of Engineering and Industrial Research, National Research Council, Washington 25, D. C. 1944. 686 pp. $3.50.*

An exhaustive report on the economics and technical details of highway construction and maintenance. Most of the investigations come under six headings: Finance and Economics, Design, Materials and Construction, Maintenance, Traffic Investigations, and Soils Research. The functions of the Board are: to provide a forum for the discussion and publication of the results obtained by individual research workers; to organize committees of experts to plan and suggest research work and to study and correlate results; to publish and disseminate information; to provide a research information service; and to carry on fact-finding investigations when special funds are available.

Public Personnel Administration

INTERGOVERNMENTAL COOPERATION OF PUBLIC PERSONNEL ADMINISTRATION IN THE LOS ANGELES AREA.—*By Judith Norvell Jamison. Bureau of Governmental Research, University of California, Los Angeles, Calif. August 1944. 107 pp. Mimeo. 50c.*

How intergovernmental cooperation has been utilized to attain maximum efficiency and economy in public personnel administration in the Los Angeles metropolitan area. This monograph considers the legal, historical, and practical aspects of consolidation and cooperation.

ASPO Annual Meeting

PLANNING—1944.—*Proceedings of the Annual Meeting held in Chicago, May 1-3, 1944. American Society of Planning Officials, 1313 E. 60th St., Chicago 37, Ill. viii + 232 pp. $3.*

Again this annual volume reflects trends and progress in the frontier of the planning field, as interpreted by leaders in the movement. The problems and plans of American cities in three population groups are discussed—under 50,000, 50,000 to 300,000, and over 300,000. An up-to-date picture of what the states are doing in the way of planning is also given.

A few other topics explored are interregional highways, municipal finance, and planning in Puerto Rico, covered by G. Donald Kennedy, Carl H. Chatters, and Rafael Picó, respectively.

This annual report opens with a discussion by David Lilienthal, Chairman of the Tennessee Valley Authority, on "The People's Stake in Planning." There is a section on Syracuse's progress in planning, and John B. Blandford, Jr., Administrator, National Housing Agency, reports on "Next Steps in Our Housing Program." ASPO reports are also included.

Bibliography on Post-War Planning

RESEARCH AND POST-WAR PLANNING.—*Bibliography XV. United Nations Information Office, 610 Fifth Avenue, New York, N. Y. June 1944. 75 pp. $1.*

A valuable handbook for the study of topics dealing with the war and post-war periods. The bibliography is divided into three sections: the war, the immediate post-war, and the reconstruction periods.

Part I gives references for information on the military, political, social, economic, and ideological phases of the war. The section on the immediate post-war period is a bibliography for analysis on the maintenance of public order, administration of relief, treatment of the enemy, and an introduction to the topic of international coordination. The last part gives sources for a more detailed discussion of international collaboration—its areas and machinery—the future of the enemy states, money, credit and economics, social policies, ideologies, and the references on general studies of the post-war problems.

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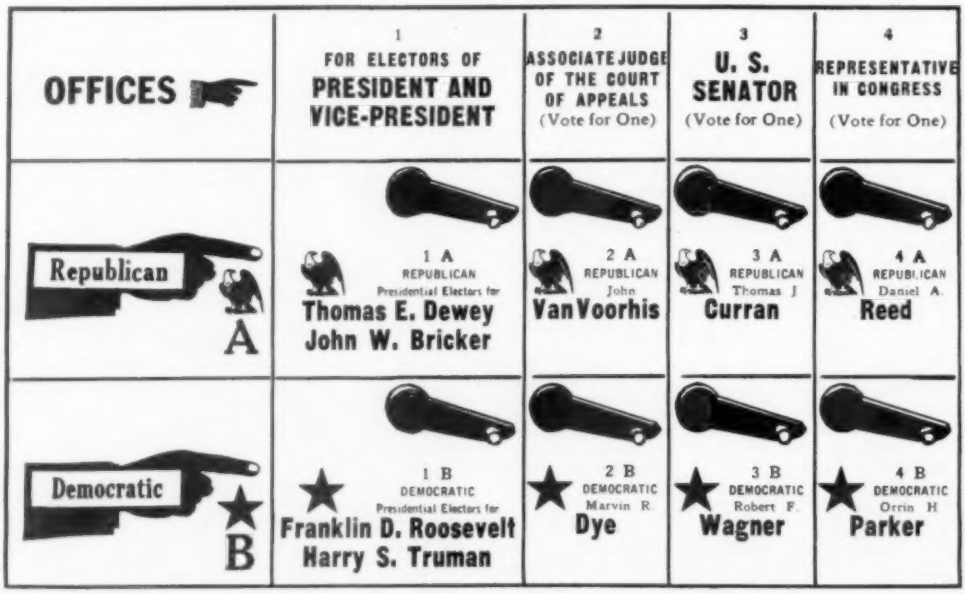

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Russia Rebuilds

THE U.S.S.R. IN RECONSTRUCTION.—*Edited by Harriet L. Moore. The American Russian Institute, Inc., 56 W. 45th St., New York 19, N. Y. 1944. Maps. 160 pp. $1.*

A series of essays by specialists presenting problems of post-war reconstruction in the U.S.S.R. and the measures proposed by the Soviets to meet them. The immensity of the task in a country where its chief industrial and most populous areas were under Nazi domination for varying lengths of time from 6 weeks to 3 years has stimulated planning on a broad and dynamic scale. While meeting emergency conditions with courage and understanding, the U.S.S.R. emphasizes rebuilding life as a whole, creating environments which will assure the conditions for an abundant life in the eras to come. Farms and cities are being reconstructed along advanced scientific and technological lines, but local personnel, who understands the area, are responsible for their reconstruction.

The tremendous growth of urban centers (354 new towns were built from 1924-1939 and the urban population increased from 23.5 to 55 million), the shift of industry to the undeveloped East, continued research in all fields, and exploration of the national resources have combined to give impetus to the work ahead. A brief résumé of the principles of Soviet finance and probable post-war economic relationship with the United States are also given.

Local Post-War Planning

SELECTED LOCAL PLANNING ACTIVITIES IN VIRGINIA.—*Monograph Series, Vol. I, No. 1. Virginia State Planning Board, Richmond, Va. March 1944. 23 pp.*

The first of a series of monographs designed to keep the planning officials of Virginia municipalities posted on planning activities of other local commisisons now organized and functioning. City and regional planning are discussed, as well as public works and agricultural planning. It reports on Montgomery County's preparations for a rehabilitation program to relocate returning service men and women and on Questionnaires that have been sent out to Montgomery County citizens in the armed forces.

Other Reports Received

BERKSHIRE COUNTY, MASS.—*Treasurer's Report and County Commisisoners' Report:* 1943. Issued January 1944. 68 pp.

BUFFALO, N. Y.—*Condensed Financial Report of the City of Buffalo:* 1943-1944. Department of Audit and Control, Frank M. Davis, Comptroller. 64 pp.

EAST ORANGE, N. J.—*Annual Report:* 1943. 122 pp.

FORT LAUDERDALE, FLA.—*City Manager and Audit Report:* 1943-1944. A. J. Merrill, City Manager, Fort Lauderdale, Fla. 43 pp.

PASADENA, CALIF.—*Annual Report of the City Controller:* 1943-1944. Harold M. Hines, Office of City Controller, Pasadena, Calif. September 1944. 98 pp.

The Odyssey of Detroit's Budget. Detroit Bureau of Governmental Research, 1050 Buhl Bldg., Detroit 26, Mich. September 1944. 19 pp.

Highway Traffic Conference Proceedings.—Eno Foundation for Highway Traffic Control, Inc. Astor Gallery—The Waldorf-Astoria, New York, N. Y. April 14, 1944. 84 pp.

A History of City Planning in Rochester.—By Blake McKelvey. Appearing in *Rochester History.*—Edited by Dexter Perkins, City Historian, & Blake McKelvey, Assistant City Historian. Rochester Public Library, 115 South Avenue, Rochester 4, N. Y. October 1944. 24 pp.

Facts in Figures About Atlanta. The Industrial Bureau of the Atlanta Chamber of Commerce, Atlanta, Ga. 1944. 40 pp. Free on request.

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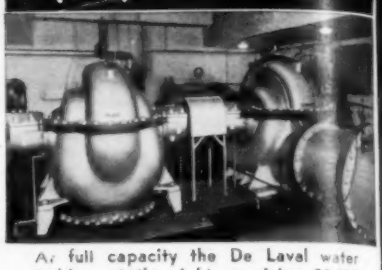

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Pittsburgh Equitable Meter Co.
Pittsburgh 8, Penna.

Human Side of City Hall

(Concluded from page 95)

The impression one gets of Boulder's City Hall and its chief executive is of an administration close to the people. McClintock is first of all a citizen—charged with the responsibility of making life even more pleasant and efficient for his fellow-citizens. Casual conversations with those who visited City Hall suggest that efficiency is the keynote of City Hall's policy. It is reflected in the general tidiness of the community—unusually clean streets, unobtrusive but well-operated public services. It is also reflected in the know-how of the purchasing and accounting systems, in the cooperative relations (for instance in the use of equipment) with other nearby communities. The City Manager seems to be the spark plug of an administration geared to serve needs and interests shared by the administrators with their fellow-citizens.

These brief glimpses of two typical American communities, one large, one small, can give only general impressions of what is going on in these City Halls. What is happening in them—in making better government, which means better service, a reality—*can* happen in every City Hall. Happily, it is in an increasing number.

Broome County Planning

(Concluded from page 83)

portant for every city to consider its fitness for the industries it has and seeks. . . .

Size Less Important Than Quality of Life

"The war has generated certain new expectations and new possibilities. Our cities will be called upon not merely to expand the range of their services, but they must readjust their governmental and social institutions to meet the needs of a changing population. More old people and fewer children calls for new patterns of educational, health and welfare services. More leisure calls for widely extended recreational and cultural services. The forms of civic organizations developed during the war should not be allowed to disintegrate but should be adapted to this new population. Our cities have given rise to a host of voluntary associations. They will be an immense social capital which can be utilized for the implementation of democratic living.

"Our cities need physical reconstruction; but they need economic, fiscal, social and administrative reconstruction even more sorely if they are to rise to their problems and to their opportunities. It is easier to plan for cities today than it was in the speculative era of the past. Cessation of growth does not necessarily mean decay. It can mean maturity and wholesome orderly living. Size is less important than quality of life. Cities can and must become more desirable places in which to live and to work. Planning can make them so."

POSITIONS AVAILABLE

The City Plan Board of Dayton, Ohio, asks THE AMERICAN CITY to announce that it would welcome applications for two positions now vacant:

Senior Planning Assistant
Salary $2,700-$3,300 per year
Associate Planner
Salary $3,300-$3,800 per year

The Citizens Post-war Planning Committee, Charles E. Coltrin, Executive Secretary, Municipal Building, Akron, Ohio, writes that the Planning Department of Akron is in immediate need of several assistant engineers, architects and draftsmen to work on a master plan for the city and detailed plans of public improvements.

THE AMERICAN CITY will be glad to carry *without charge* announcements like the foregoing of vacancies in municipal departments or agencies where residence requirements have been waived and where the vacancies will be held open long enough for such announcements to be of value.

Para-Plastic — for the top seal of Expansion and Dummy Joints. The hot-poured, rubber-like, waterproof seal that conforms to Federal Spec. SS-F-336, C.A.A. Spec. P-605 and the Specifications of State Highway Departments.

Expansion Joints for any purpose—Asphalt, Fiber, Cork and Self-Expanding Cork.

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Asphalt Plank—Mineral surfaced, Standard or Industrial.

Literature on request.

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MODERN AIRFIELD PLANNING AND CONCEALMENT

By Merrill E. Delonge, Major, Army Air Corps

This book is offered as a guide to all who must concern themselves with the planning and operation of our airfields of tomorrow.

Says the author: "Too much emphasis cannot be placed on the importance of exerting every possible effort to build our airfields with the greatest degree of inherent concealment possible."

Major DeLonge first considers the role of concealment in modern warfare; then takes up the matter of "Choosing Airfield Locations Easy to Hide" and the problems of "Building in of Maximum Concealment," concerning himself with such topics as turf fields *versus concrete runways, problems of dispersion, of the location of hangars and protective pens, choosing proper colors and textures,* and lastly, *how to mark a well-concealed airfield so its own planes can find their way home to it.* 200 pp. $4

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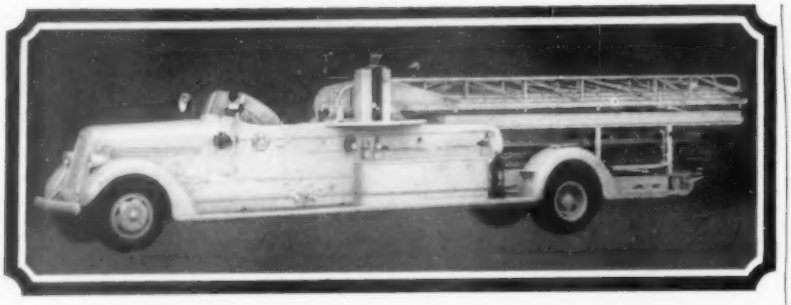
5. Assign Responsibility
6. Provide for Pledge Record
7. Resolicit
8. Advertise the Drive

KEEP YOUR QUOTA "Out Front"



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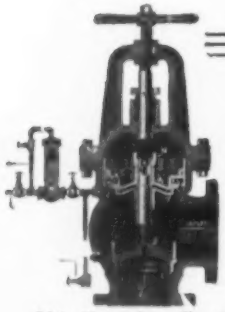

TRIPLE ACTING NON-RETURN VALVE

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This valve will automatically cut in a boiler whenever its pressure equals line-header pressure; it will isolate a boiler automatically whenever its pressure, from any cause, is lower than line-header pressure; and it will prevent steam flow from the boiler in event of sudden drop of line-header pressure below the boiler pressure, by means of differential shot pilot valve functioning.

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Furnished in angle, globe and elbow patterns, sizes 2½" to 12"; also available in larger sizes, as well as in the Cross pattern.

Write for Specifications

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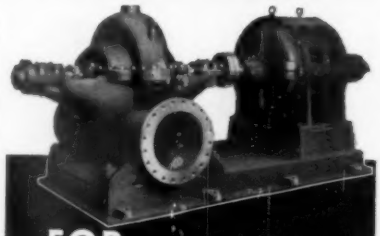

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Morris Double-Suction Horizontally-Split Pumps are notable for their high efficiency and dependable, trouble-free operation. Water Department Superintendents of municipalities where these units are used report complete satisfaction with their service. Built in single and multiple stages for all capacities.

Bulletin on request

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for municipal services

Promoting The Community Center Idea

ONE way of persuading a community that a community center is a valuable asset and possible to achieve is brought out in this recent report of the International City Managers' Association:

"Without a newspaper to inform the citizens of a proposed memorial community center and without a sketch, plan or photograph of the project, Northampton, Pa., municipal officials sold the town on the idea. Through public meetings and distribution of informal chatty pamphlets giving the facts, the $50,000 necessary for the new building was raised by the city.

"Designated as the municipality's number one post-war project, detailed plans now are being drawn up with the citizens' approval. The fund, invested in war bonds, will be redeemed as needed to pay for the community center.

"In connection with the Northampton memorial community center and adjacent to it, borough fathers expect to build a park and municipal swimming pool. Funds for these two projects also are available, as the city has $37,400 in war bonds and earmarked for post-war capital expenditures.

"To promote the plan for the community center, a general meeting was held in the municipal building last February. After details of the project were presented, the meeting was thrown open for general discussion. Written invitations to attend the meeting were sent by the city to all civic and fraternal organizations, the clergy, industrial and commercial establishments, trade unions, clubs, civilian defense units, etc.

"Citizens approved the idea for a much-needed community center, and at a second public meeting officers were chosen to organize the project. Recommendations of these officers were considered, revised and approved at a third public meeting. A name was selected and registered, a charter as a non-profit organization was granted and by-laws were adopted providing membership and voting privileges to all contributors.

"Cash contributions and pledges to be paid within one year were given the city, and the names of all contributors, with the amount given, will be put in a permanently bound volume to be displayed in the community center.

"Officers and directors will be elected annually when all persons who have contributed meet to discuss business of the organization."

" "

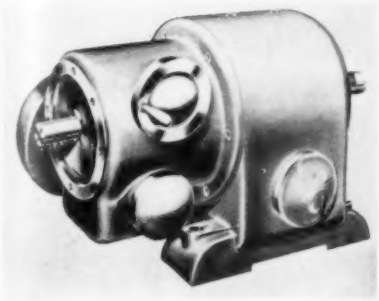
Blessed is the man who, having nothing to say, abstains from giving in words evidence of the fact.—GEORGE ELIOT

" "

Jock when ye hae naething else to do, ye may be aye sticking in a tree; it will be growing. Jock, when ye're sleeping.—SIR WALTER SCOTT

News and Illustrations

Items of Interest to City, Town and County Officials and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings



This new variable speed drive incorporating split-hair control is so compact that it is about the size of its motor.

New Variable Speed Drive

Because of bulkiness, the geared method of power transmission has heretofore been limited to the small horsepower capacities, but the development of the new Lombard Variable Speed Drive, based on entirely new engineering principles, has come at an opportune moment for the planning of post-war equipment and machinery installation, already replacing belt and chain-drive methods. This new streamlined transmission is adding silence and split-hair control to the larger horsepower fields.

This new method of drive developed by the Lombard Governor Corp., Ashland, Mass., promises to be a large factor in the revitalizing of old equipment. Eliminated are such occurrances as the frequent slipping of belts, occasional failure or tie-up of the central power system and consequent idleness of all connected machinery.

Its compactness and light weight assure ease of handling and installation. The gears are totally enclosed in oil, thus reducing noise and making for safety and long life. A lower gear ratio affords finer hairline control insuring peak production speeds. Low maintenance is made possible as the easily accessible V-Belt is the only part likely to need replacement over a long period of time. Having the variable speed output shaft furnished concentric with the motor shaft gives it the advantage of a direct line drive.

As a result of the entirely new engineering approach embodied in this unit, old limits of space, weight, and horsepower are discarded, and entirely new fields of application are available.

Dresser Acquires Company and Changes Name

Announcement has been made that at a recent meeting Dresser stockholders approved by a majority vote an increase in authorized capitalization from 350,000 to 600,000 shares. This increase provided shares for the consummation of an agreement between Dresser Industries, Inc., Bradford, Pa., and International-Stacey Corp., Columbus, Ohio. Effective November 1, Dresser will acquire the properties of International-Stacey in consideration of the issuance of 103,000 shares of Dresser stock to International-Stacey shareholders.

Also, at the meeting it was voted to change the organization's name from Dresser Mfg. Co. to Dresser Industries, Inc., which comprises a number of related companies producing equipment for the oil, gas, and water fields. H. N. Mallon, President, in making the announcement said: "The enterprise can no longer go under the name of a single manufacturing company because it has, in fact, become a group of related industries."

Multigraph Sales Manager for Addressograph

Announcement of W. H. Wilson's appointment as Multigraph Sales Manager, Addressograph-Multigraph Corp., Cleveland 17, Ohio, is made by J. B. Ward, Vice-President in Charge of Domestic Distribution.

W. H. Wilson

Analyzing duplicating markets, Mr. Wilson says, "There is no doubt that the future will see many changes in the tempo of all business. Provided we plan well and act on our plans, our sales volume and earnings will grow immeasurably. . . . We are now in a position where the 'green light' is on. . . . Possibilities in the field will be limited only by our salesmanshp. . . . This Multigraph business will be built by holding what we have and extending the use of our equipment and methods to serve all markets."

One of these markets, as a score of different city officials can confirm, is the duplicating of municipal records including resolutions to be passed by council—record of city automobile licenses—notice of legal action—reports of personal injuries and property damage—license applications—notice of civil service examinations—fire prevention folders—garnishment summons—equipment records—milk regulations—burial permits—contagion reports—diets for children—applications for positions—complaint forms—requisitions—purchase orders—specifications—daily finance reports—time sheets—cash book records—annual budget reports—reports on street trees—work records—reports on hearings—histories of public works projects—progress reports on construction—equipment rental reports—record of material costs—cemetery reports—applications for permits—inspection reports—report of building permits—daily police reports.

Mr. Wilson was among the first to recognize broader duplicating markets. His sales of direct image applications involving the use of the Duplex plate were a major factor in his success. He promoted the broad use of Systemat masters and is an active backer of the systems education program of the Addressograph-Multigraph Corporation.

Portable Electric Hand Searchlight

A portable electric hand searchlight that is adaptable to a wide range of uses, particularly for maintenance, repair, plant protection, fire, police and street departments, public utilities, is the "Big Beam" No. 411.

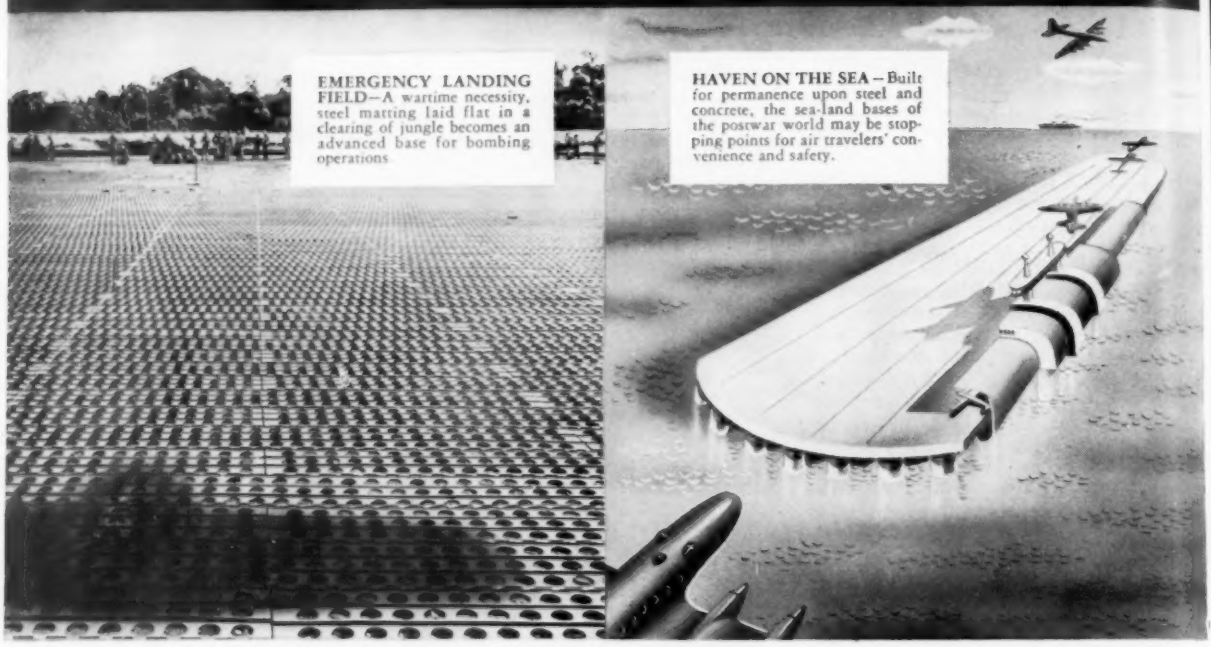
Manufactured by U-C Lite Mfg. Co., Dept. AC, 11 East Hubbard St., Chicago, Ill., the No. 411 is capable of projecting an intense beam of more than 2,500 feet or, by means of a snap-on-lens, giving the same volume of light over a wide area. It is powered by a heavy-duty 6-volt storage battery, rechargeable from any a.-c. charger, d-c line or light plant. Recharging is simple, clean, safe, and the battery is not removed from the container.

Other features include a lamp head that can be turned in any direction and remain in position. It is perfectly balanced for carrying by hand or with shoulder-strap, it can be set almost anywhere, and can be securely anchored to any flat surface by means of a hold-down.

A beam that can be thrown 2,500 feet, a snap-on lens to throw volume over a wider area, and a 6-volt rechargeable storage battery are features of this portable hand searchlight.

SOLVAY*

...KEYED TO TODAY AND TOMORROW!



EMERGENCY LANDING FIELD—A wartime necessity, steel matting laid flat in a clearing of jungle becomes an advanced base for bombing operations.

HAVEN ON THE SEA—Built for permanence upon steel and concrete, the sea-land bases of the postwar world may be stopping points for air travelers' convenience and safety.

Today...Solvay Alkalies are vital contributions to our war-operating industries. Aviation—but one major consumer—exemplifies the basic use of these quality alkalies and related products in the manufacture of essential war equipment. Solvay, serving all industry since 1881.

Tomorrow...the application of today's wartime developments in industry will establish new horizons for American manufacturers. Solvay, America's largest producer of quality alkalies, will continue to offer its research and technical resources to a greater-expanding peacetime industry.

SOLVAY

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**The Solvay Process Company employs salt, limestone and ammonia to make Soda Ash, from which basic material Caustic Soda and other alkalies are derived.*

SODA ASH • CAUSTIC SODA
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Philip Carey Mfg. Co. Makes Executive Appointments

The Philip Carey Mfg. Co., Lockland, Cincinnati 15, Ohio, producers of building materials and industrial products, has made three appointments to executive positions in its sales and advertising departments, according to E. W. Smith, Vice-President and General Sales Manager.

H. D. Bates

Harold D. Bates has been named Advertising and Sales Promotion Manager. Mr. Bates, with more than 20 years experience in the promotion of building materials and industrial products, was with Johns - Manville at New York prior to this appointment.

C. L. Owens

Chester L. Owens is now Assistant General Sales Manager. He joined the Philip Carey Co. as a salesman in 1927 and later served as Branch Manager at Omaha and Chicago. For the past 10 years he has been Manager of the Cincinnati Branch.

George B. Johnston, who becomes General Merchandising Manager, was formerly Manager of the Marketing Division. In his 19 years with the Carey organization he has served in various capacities, among them Manager of the Contract Department at Louisville and Assistan Branch Manager at Chicago.

G. B. Johnston

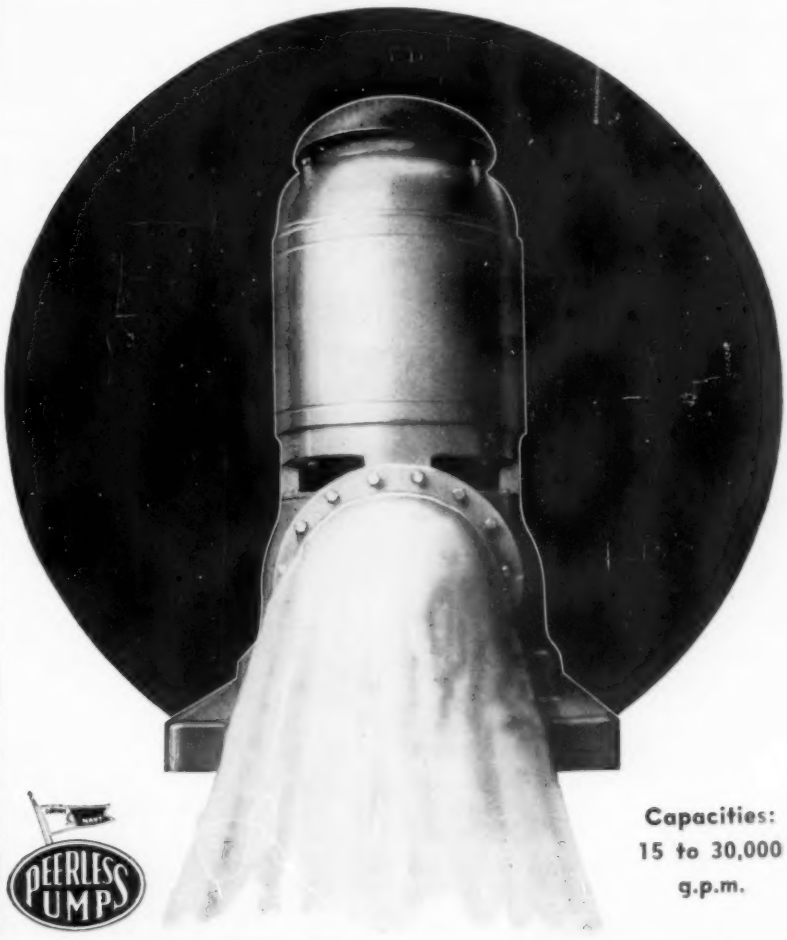
Asphalt Institute Appoints District Engineer

John R. Banning has been appointed District Engineer for the Asphalt Institute, 801 Second Ave., New York 17, N. Y., according to a recent announcement by B. E. Gray, General Manager. His territory will cover Montana, Eastern Washington, Idaho, Wyoming, North Dakota, Western South Dakota and Utah, and he will have his offices in the Gullard and Wilkins Bldg., Billings, Mont.

Mr. Banning's 21 years of engineering experience began in the engineering department of the city and county of Denver where he served successively as laboratory technician, office engineer, and assistant superintendent of the Paving Division. In 1933 he became Project Engineer for the U. S. Bureau of Public Roads in charge of construction on the entrance to Yellowstone Park and the bituminous mat construction on the Canyon-Tower Falls highway.

From 1935 till his present appointment he was Highway Commissioner for the city and county of Denver and had direct responsibility for designing and constructing such projects as the municipal airport, Jones Pass Water Division, Platte River free-way, flood control dams on the Platte River and Cherry Creek, and all paving and widening projects constructed under WPA.

In his new position Mr. Banning will make available the engineering, research and general promotional facilities of the Asphalt Institute to highway, airport and other public works officials of federal, state, municipal, county and town agencies.



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The Peerless Water Lubricated Turbine Pump completely eliminates the use of oil underground; yet the line shaft is thoroughly lubricated by the well's own water. Thus, the *original purity* of the well water is retained. Moreover, this pump is the simplest of turbine designs and incorporates the imperial excellence that characterizes the heaviest-duty Peerless Pump.

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—**EXPLAINS** the principles of statics, reactions, moments, and shears in beams and trusses, influence lines, methods of computing stresses in lateral trusses and portal bracing.

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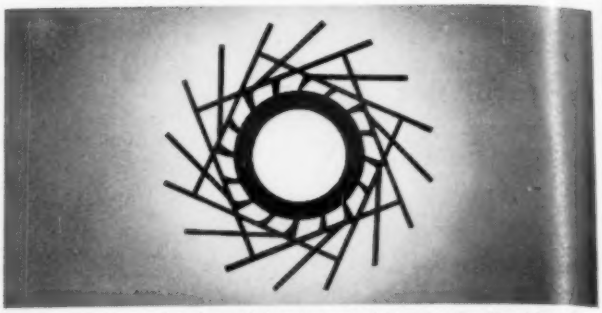

American Airlines tangent airport plan for New York City from "Airports and Air Traffic Control" by Glen A. Gilbert, Chief Air Traffic Control Division, CAA.

The Shape of Things to Come . . .

In air transportation especially, the pattern of the future will not be the pattern of the past. No other field holds the prospect of greater advancement nor offers fuller opportunity for sound development. In things which have made air travel safe and efficient—radio range beacons, markers, communication transmitters and receivers, airport traffic controls—RADIO RECEPTOR, as a pioneer, has contributed its full share of development, and will continue to lead in design and manufacture.

To "the shape of things to come" in aeronautical radio, RADIO RECEPTOR will bring more than 20 years of practical experience. These have been years of successful accomplishment in pre-war radio equipment plus outstanding developments born of the present conflict.

Our non-technical booklet, "HIGHWAYS OF THE AIR," *explains the importance of radio to aviation. It will be sent to you upon request. Address Desk A.C.*

"Although an airway may be loosely defined as a designated route for aircraft plying from airdrome to airdrome, it cannot really be said to exist on a practical scale without airways communications, airdrome traffic control, and radio navigational aids. These are the three components furnished, over some 70,000 miles of foreign military airways, by the Army Airways Communications System Wings."—**An excerpt from "The Army Airways Communications System," by Lt. W. Fawcett, Jr., Headquarters, AACS.**

Radio Receptor Co., Inc.
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ARMY NAVY

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If such financial assistance appeals to you, write us and we will send you without any obligation, a summary of these many municipal views and will also see that you receive a complimentary copy of THE AMERICAN CITY containing the article entitled:

Leadership Needed in the Municipal Bond Field

to be published in the December issue. Write:

The American City 470 Fourth Avenue New York 16, N. Y.

Street Lighting Manager for Union Metal

L. F. Heckmann was recently appointed Manager of Street Lighting Sales for The Union Metal Mfg. Co., Canton 5, Ohio.

L. F. Heckmann

Mr. Heckmann succeeds V. J. Lajeunesse who became Treasurer and General Manager of the Superior Switchboard & Devices Co. also of Canton, which recently became a subsidiary of Union Metal.

Mr. Heckmann will continue as Manager of the company's Priority Department in addition to his new duties.

Motor Control Company Opens South Bend Office

Cutler-Hammer, Inc., Milwaukee, Wis., announced recently the opening of a sales office at 108 North Main St., South Bend, Ind. Terry Fisher, South Bend representative, will be in charge.

Cutler-Hammer manufactures products for the control and use of electric power.

WATER AND SEWAGE TREATMENT EQUIPMENT

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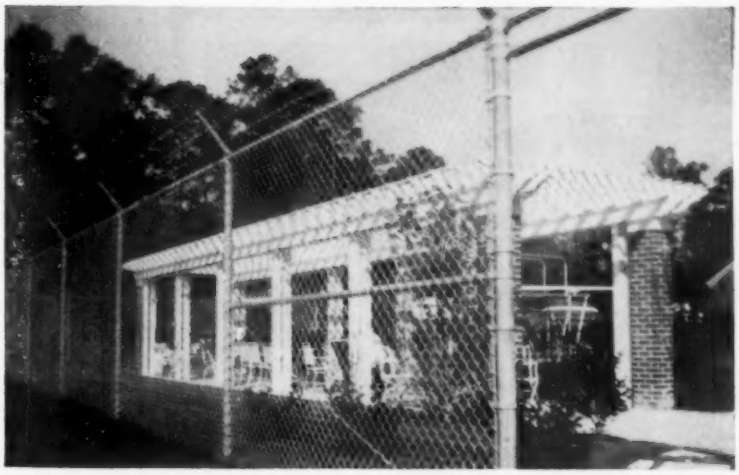
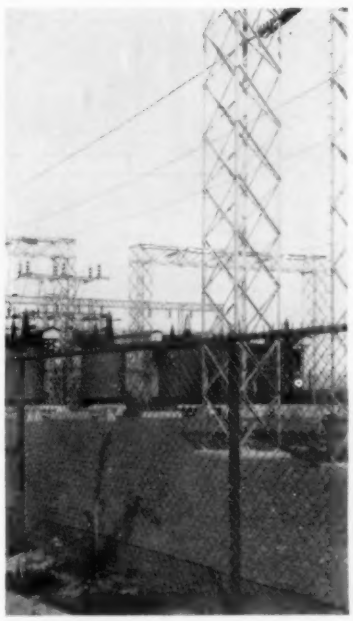


It pays to include *FENCE* in planning new projects . . .



ALMOST every public project needs the protection of good, sturdy fence. If not included in original plans there is danger of its becoming a make-shift addition. But when considered as a part of the project itself, you can have just the style of fence and gates, that harmonizes with the entire development.

It will pay you to specify Cyclone Fence. With Cyclone, you'll be sure of the finest—of the same fence that is so widely used to protect America's vital war plants—of the same fence that protects thousands of homes, schools, parks, water and sewerage plants, etc.

Let us help you. Our trained and experienced engineers are available for consultation without obligation to you. They'll help you with plans and the selection of the proper type of fence for your requirements.

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In the meantime, mail the coupon for our 32-page book on fence. Full of facts and specifications. Profusely illustrated. Complete information on different types of fence, gates, athletic field equipment, etc. Whether your plans are to be carried out now or in the future, you need this free book.

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Please send me, free of charge, your 32-page book on Fence.

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Title or official capacity.....

PICTURE OF A MAN CLOSING A 24 INCH TOUGH OPERATING GATE IN TWO MINUTES, WITH A **DEAN GATE OPERATOR.** THIS DEVICE WILL SAVE 80% OF MANPOWER AND TIME IN GATE MAINTENANCE AND SHUTOFFS.

PAYNE DEAN & CO. LACONIA, N. H.

Cast Iron Pipe

PLAIN CAST OR SPUN CENTRIFUGAL

Cast Iron Pipe and Special Castings, Bell and Spigot, Flange, Flexible Joint, Culvert, Milled and Plain End Tubes, Cylinders, Flanged and Bell and Spigot Fittings, High Pressure Fire Service Pipe, Warren Short Body Specials, Threaded End Pipe.

Size 2 to 84-inch

Pipe manufactured in accordance with standard specifications adopted and approved by water works associations and engineers.

Warren Foundry & Pipe Corp.
11 Broadway, New York City

Warren Pipe Co. of Massachusetts
75 Federal Street, Boston, Mass.

The EDDY Valve

The Eddy Valve has a number of distinctive features which it will pay you to study. For example, the gates are free to revolve on the trunnions, so as not always to seat in the same position.

Write us for further details.

Also manufacturers of the well-known Eddy Hydrant

EDDY VALVE COMPANY

WATERFORD — Representatives — NEW YORK

Jas. B. Clow & Sons, Chicago, Ill.
National Cast Iron Pipe Co., Birmingham, Ala.

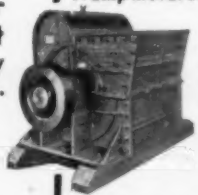
GRUENDLER CRAFTSMANSHIP
Serving Industry over 50 Years

A remarkable Shredder for your Sewage Plant
Showing the way to Sanitary Engineers in many U. S. cities.

Write for DATA and Illustrated BULLETIN No. 0491 on Garbage and Sewage Disposal Equipment

GRUENDLER
CRUSHER and PULVERIZER CO.
2915-17 North Market St., ST. LOUIS (6), MO.

Non-Clog SHREDDER with Tramp metal catcher



Types & Sizes for Your Needs

Proved features . . .

enables complete disintegration of Rag Stock, Garbage, Floatables and Fibrous materials without choke down, so as to pass screen bar—Designed with Spray Flushers, Tramp Iron Catchers and Non Clog Grate Bars.

South Bend
GUTTER-SNIPE
PICK-UP STREET SWEEPERS

STREET FLUSHERS
STREET SPRINKLERS
BITUMINOUS DISTRIBUTORS
BITUMINOUS MAINTENANCE UNITS

Since 1908

MUNICIPAL SUPPLY COMPANY - SOUTH BEND 23, INDIANA

New Advertising Manager for Graver Tank

Hugh M. Kanagy is the new Advertising Manager of Graver Tank & Mfg. Co., Inc., East Chicago, Ind., succeeding Harvey W. Blankenship.

Hugh M. Kanagy

Mr. Kanagy's experience in the industrial advertising field has been well rounded. He served as assistant advertising manager for Standard Oil Co. of Indiana, as advertising manager for the U. S. Slicing Machine Co. and with many advertising agencies throughout the country. Before joining Graver he was associated with the Farson and Huff Industrial Advertising Agency, Louisville, Ky.

Mr. Kanagy, a native of Chicago, is a veteran of both the first World War and the present conflict.

Homelite Pumps and Generators for Emergencies

Here is an example of the important part played by portable generators in emergencies.

During the recent East Coast hurricane a woman in Greenwich, Conn., suffering from a cardiac ailment was confined to an oxygen tent at the time the hurricane struck. The storm severed the power lines and as a result the oxygen tent was unable to operate. A call was made to the Homelite Corp., Port Chester, N. Y., and a portable Homelite gasoline-engine-driven generator was rushed to the woman's home. With the generator in operation enough current was available to operate not only the motor blower in the oxygen tent but also lights and two refrigerators in the woman's house. The generator was operated continuously until the power lines was repaired.

A New Electric Cable Insulation

Nubun, a new synthetic rubber latex insulation for power, lighting, and communication cable, has been developed by United States Rubber Co., it was announced by C. W. Higbee, Manager of the Wire and Cable Department, at a luncheon at the Biltmore Hotel, recently.

The new insulation is a result of wartime developments in rubber technology and will permit the design of new types of wire and cable with improved electrical and physical characteristics.

Made by the now famous latex continuous dip method, Nubun will have great advantages over ordinary wire where replacement and space are important factors. With the use of this type of wire, it is stated, fire alarm, police telegraph, and traffic signal systems will be more easily replaced and serviced, and will have greater resistance to destructive forces which cause circuit troubles.

Qualities of Nubun insulation include flexibility, impermeability to water, laminated construction, and perfect centering of the conductor to produce an insulated wire of maximum conductivity and minimum diameter.

The special synthetic rubber compound has good ageing qualities because of the presence of special antioxidants, and will resist severe wear because, by the nature of the latex process, Nubun insulation is made from a special modification of buna S synthetic rubber.

Questions regarding the advantages of Nubun in spare saving, flexibility, wear, sizes, cost, availability, may be addressed to C. H. Higbee, United States Rubber Co., 1230 Sixth Ave., New York 20, N. Y.

George Etnyre Resigns from E. D. Etnyre

Robert D. Etnyre, President of E. D. Etnyre & Co., Oregon, Ill., announced recently the resignation of George M. Etnyre as General Manager, Secretary and Treasurer of the company.

After accepting his resignation the Board of Trustees elected Joseph W. McCoy as Secretary and Treasurer to assume the duties immediately for the company.

PARTS SERVICE

Prompt-Accurate-Complete

YOUR Automotive Jobber!

Because he maintains a stock of over 100,000 parts, a complete stock of tools, equipment and accessories, and provides a complete machine shop service, your automotive jobber is prepared to give you prompt and intelligent service on every automotive vehicle maintenance job. But don't overlook the advantages of his service for many other mechanical service and maintenance jobs, in addition to automotive. Let your automotive jobber tell you about his complete facilities, services, supplies and quick availability for a multitude of other maintenance jobs.

You can depend upon your Automotive JOBBER!

NSPA

PARTS • TOOLS • EQUIPMENT
ACCESSORIES • SUPPLIES

THE COMPLETE ASSOCIATION

Devoted to maintaining and improving the Quality Standards of Service Parts, Equipment and Accessories manufacture, distribution and installation in America's thirty million automotive vehicles, and millions of internal combustion engines, and mechanical equipment.

NATIONAL STANDARD PARTS ASSOCIATION
35th Floor, 8 South Michigan Avenue, Chicago 3, Illinois

Seven Fairbanks-Morse Sewage Pumps in the new San Diego plant. Capacities range from 1000 to 10,000 g.p.m. Upper picture shows some of the Fairbanks-Morse Motors which drive these pumps.

New San Diego Plant Uses Fairbanks-Morse Sewage Pumps

The San Diego, California sewage treatment plant, put into operation in July, 1943, was designed with a generous reserve capacity. But wartime conditions so quickly swelled the city's population, that already the plant has operated many times at near capacity.

Thus the new plant promptly demonstrated its ability to handle heavy loads. It has demonstrated its operating economy, too . . . the first 2,024 million gallons of sewage were treated for only $14.75 per million gallons. Sales of fertilizer produced—$120 worth per day—pay a considerable part of the operating cost.

Contributing to the efficiency and economy of the San Diego plant are seven Fairbanks-Morse Sewage Pumps, each driven by a Fairbanks-Morse Motor.

There are efficient Fairbanks-Morse Pumps for *every* municipal need, whether for sewage handling or for water supply. Let our pump engineers help solve your pumping problems without cost or obligation. Write Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

BUY MORE WAR BONDS

FAIRBANKS-MORSE

DIESEL ENGINES
PUMPS
MOTORS
GENERATORS
WATER SYSTEMS
SCALES
STOKERS
FARM EQUIPMENT
RAILROAD EQUIPMENT

Pumps

Dr. S. C. Ogburn, Jr., Manager Research and Development; Leonard T. Beale, President of Penn Salt, together with C. F. Kettering, General Manager, General Motors Corp., Research and Laboratory Division, at the recent opening of the Penn Salt Laboratories.

Penn Salt Opens Research Laboratory

The formal opening by the Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa., of its new Whitemarsh Research Laboratory at Chestnut Hill, Pa., near Philadelphia, took place recently.

At the opening ceremonies Leonard T. Beale, President of the company, presented the key of Whitemarsh to Dr. S. C. Ogburn, Jr., Manager of the Research and Development Department, and C. F. Kettering, General Manager, General Motors Corp., Research Laboratory Division, presented a short address.

During the four days of the opening, groups from various fields of science, industry and education were conducted through the new laboratories. One day was reserved for company employees only.

The laboratories have been developed at Whitemarsh Hall, a mansion belonging to the late Edward T. Stotesbury, which the company purchased for a center in which to create a group of laboratories to meet its expanding research and development program, at present devoted largely to the war effort. By using the existing structure, which was suitable for conversion, the company saved time, building materials, labor and expense and yet fulfilled the need. The famous grounds of Whitemarsh will continue to be maintained.

New Directors for LaPlant-Choate Mfg. Co.

The LaPlant-Choate Mfg. Co., Inc., Cedar Rapids, Iowa, builders of bulldozers, announced the election of several new directors at its recent annual stockholders' meeting.

These new directors, men prominent in the business and industrial world, are as follows: Alfred Kauffmann, former President and current Director of the Link-Belt Co., 307 N. Michigan Ave., Chicago, Ill.; Roy Fruehauf, Executive Vice-President, Fruehauf Trailer Co., Detroit, Mich.; Howard Hall, President, Iowa Mfg. Co., and Iowa Steel and Iron Works, Cedar Rapids; and Owen N. Elliott, senior partner of the law firm Elliott, Shuttleworth and Ingersoll, Cedar Rapids. Alfred Kauffmann will serve as Chairman of the Executive Committee.

Re-elected to the board at the same time was Roy E. Choate, President of the company since it was incorporated in 1927, and S. E. Coquillette, President of the Merchants National Bank, Cedar Rapids. Archie D. Dennis, Secretary-Treasurer, was also named a director.

CIRCUL-AIR
FIRE HOSE DRYER
- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries

THE CIRCUL-AIR CORPORATION
6339 East Palmer Avenue
DETROIT 11, MICHIGAN

★ ★

Fresh, high quality broom fibres last longer

AFRICAN BASS FIBRES

INDIA PALMYRAH STALKS

The longer mileage you obtain from fresh broom fibres means less time-taking refilling of the broom core and valuable man-hours put to an extra use. The use of fresh, high-quality fibres in your mechanical sweeper is sound economy these days.

We are able to service every need in all types and sizes. We would be happy to receive your request for samples and quotations.

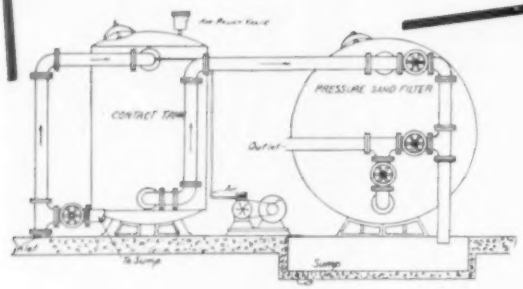
MOUNTAIN HICKORY SPLINTS

STEEL WIRE SWEEPER STALKS

The OTTO GERDAU CO.

82 Wall Street, New York 5, N. Y.

For the Removal of IRON From Water!



Refinite

PRESSURE AERATION AND FILTRATION

For municipal use, as well as for all industrial purposes, iron is extremely objectionable in water supplies. It forms stains; forms deposits which clog pipes and machinery; and imparts a metallic taste. Refinite offers several types of iron removal equipment for use on various types of water. Among the most widely used is the Pressure Aeration and Filtration method, a highly efficient and extremely economical process.

Pressure Aeration oxidizes and precipitates the iron, and removes most of the iron content. Filtration, which follows, completely removes the remainder, producing a clear, iron-free effluent.

Refinite offers a complete line of quality Water Softening and Filter equipment. Let Refinite help solve your water problem.

The Refinite Corporation

Since 1917

109 Refinite Bldg. Omaha 8, Nebr.

KWIK-MIX BITUMINOUS NON-TILTING MIXER

An End Discharge mixer for applying cold or hot laid bituminous mixtures to new surfaces, for re-facing and for maintenance. The wide, quick acting discharge gate of the non-tilting drum reduces the time between batches. This light weight, portable unit can be quickly spotted and because of the end discharge advantage, the mixer can be conveniently pulled away from the discharged material. Equipment includes two burners which can be easily removed for controlling temperatures

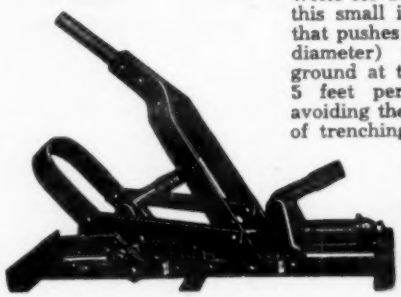
Write for Catalog BAC

KWIK-MIX CONCRETE MIXER CO.
PORT WASHINGTON . . . WISCONSIN

GIANT

Reduce Pipe-Laying Costs with a GIANT Pipe Pusher

Write for booklet telling of this small inexpensive tool that pushes pipe (up to 15" diameter) through the ground at the rate of 1 to 5 feet per minute, thus avoiding the heavy expense of trenching.



Address Dept. P

GIANT MFG. CO.
Council Bluffs, Ia.

CITY MANAGER WANTED

The City of Milford, Delaware, population 4,400, has an opening for the position of City Manager.

We own and operate our power, light and water plants.

Salary commensurate with general qualifications of applicant.

Reply in writing to

Mayor Edward C. Evans
Milford, Delaware

Atlanta District Manager for Worthington Pump

William J. Van Vleck has been appointed Manager of the Atlanta office of the Worthington Pump and Machinery Corp., Harrison, N. J. He succeeds Edward Stauverman who resigned after many years with Worthington to enter another line of business.

Wm. J. Van Vleck

Mr. Van Vleck's association with the company dates back to 1924 when he entered as a member of the student group. Since 1938 he has been Assistant Manager in Philadelphia.

Raybestos-Manhattan, Inc. Issues New Book

Raybestos-Manhattan, Inc., Passaic, N. J., has issued a new booklet listing the various divisions that comprise its organization. Write Passaic for the interesting history of The Raybestos Division, The Manhattan Rubber Mfg. Division; United States Asbestos Division; General Asbestos & Rubber Division; The Canadian Raybestos Co., Ltd.; and Raybestos-Belaco, Ltd.

LIFTER WORM LOCK

In removing the lid from a Ford meter box cover the action of unlocking provides a powerful screw-jack effect which raises the lid from the frame, breaking the seal of ice or dirt.

Turning key in the unlocking direction attaches it to the bolt head so key serves as a handle for lifting the lid. The action of locking releases the key.

Send for catalog of Ford Meter Box Covers

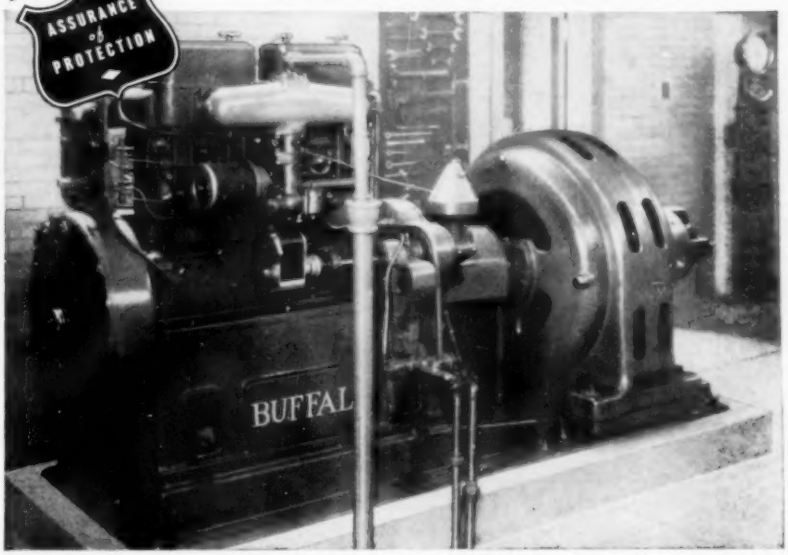
FORD

Meter Box Co.,

WABASH, INDIANA

BUFFALO ENGINES — ASSURANCE of PROTECTION

Main Pump Room—Sewage Treatment Plant, Norristown, Penna. A BUFFALO Model RA-4 Engine direct connected to an Ideal 75 Kva, 1200 RPM generator supplies emergency power.



WITHOUT STAND-BY EQUIPMENT POWER FAILURE

. . . Breeds Disaster!

Rapidly as repairs to power lines and equipment can normally be made, there is always time for disaster to strike during a breakdown. Fire underwriters, who know more about this than anyone, base their rates upon it as a fact; hence in any community, stand-by equipment pays for itself in insurance savings.

For assurance of protection, select BUFFALO Engines for motor generator or pumping sets. Their specifications will convince the engineer that they are completely trustworthy, and a visit to a Buffalo-powered station will prove to the operating man that here is the ideally clean, quiet-running and dependable motor for this service.

Our years of experience are at your service in planning new installations. Write for motor descriptions and Specification Sheets for your files.

BUFFALO GASOLENE MOTOR COMPANY

DEPT. AC-114 BUFFALO 13, N. Y., U. S. A.

BUFFALO ENGINES — ASSURANCE of PROTECTION

BUFFALO ENGINES — 100 H. P. THROUGH 750 H. P.— IN GENERATOR AND PUMPING SETS FOR WATER WORKS — AIRPORTS — COMMUNICATIONS — FLOOD CONTROL — HOSPITALS — INSTITUTIONS — MINES — MOVABLE BRIDGES — THEATRES — SEWAGE PLANTS.

Leading water works engineers are now preparing for peace with complete, detailed plans for new municipal supply lines. Judging from the blue-prints of the future, all indications point to a rapid residential and industrial growth of many cities and towns throughout the United States.

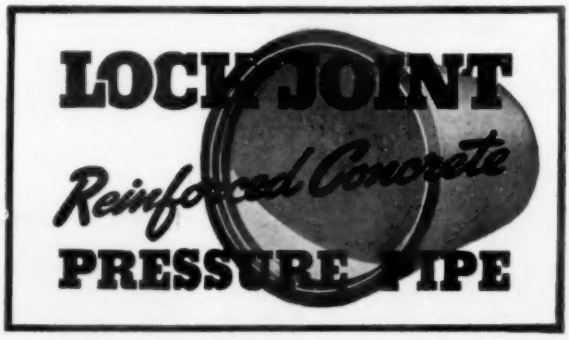
For many years Lock Joint Reinforced Concrete Pressure Pipe has been included in the specifications for the majority of all large diameter water pipe contracts and is playing an ever-increasing role in principal cities throughout the nation.

"Tailor-made" to fit the job, there is absolute assurance that strong, sturdy Lock Joint Pipelines are permanently immune to tuberculation and corrosion. City officials can depend upon permanent high carrying capacity and low cost operation for a century of useful service. Look to Lock Joint Reinforced Concrete Pressure Pipe as your most economical and safest post-war investment.

Whether your project is large or small, for the present or the future, your 'phone call, telegram, cable or letter to any of our offices will bring a prompt reply.

LOCK JOINT PIPE COMPANY
Established 1905
AMPERE, NEW JERSEY

Denver, Colo. • Chicago, Ill. • Kenilworth, N. J. • Kansas City, Mo. • Rock Island, Ill. • Joplin, Mo. • Valley Park, Mo. Cleveland, Ohio • Hartford, Conn. • Navarre, Ohio



SCOPE OF SERVICES *Lock Joint Pipe Company specializes in the manufacture and installation of Reinforced Concrete Pressure Pipe for Water Supply Mains as well as Concrete Pipe of all types for Sanitary Sewers, Storm Drains, Culverts and Subaqueous lines.*

The New York office of the Friden Calculating Machine Co., Inc., San Leandro, Calif., opened officially on October 19. As announced in the July issue of THE AMERICAN CITY, *it will house both the New York City and eastern sales and service divisions as well as a service training school. J. Arthur Russell is New York City agency manager, and Larry Taylor, Eastern Division Manager. Participating in the celebration were President Carl M. Friden, Vice-President John Lund in charge of sales, and Advertising Director H. A. Richardson. The organization operates through more than 250 company-controlled sales agencies in the United States and Canada, and sales and service organizations are maintained throughout the world.*

The growth of this company in its ten years parallels the increase in the use of office appliances by municipalities. Calculators, a basic business machine, are employed in nearly every city department from engineering and utilities to tax and finance. Their improvement in flexibility and simplicity and their intelligent promotion are genuine aids to municipal-government operations.

Minnesota Mining Acquires Mid-States Gummed Paper Co.

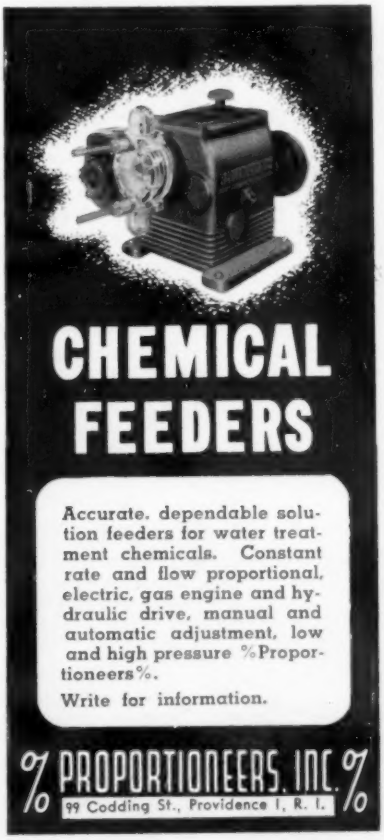
W. L. McKnight, President of Minnesota Mining and Manufacturing Co., St. Paul 6, Minn., announced the acquisition of the Mid-States Gummed Paper Co. of Chicago. This is one of the larger concerns in the field of gummed paper, cloth tape and gummed label manufacture, and will operate as a subsidiary.

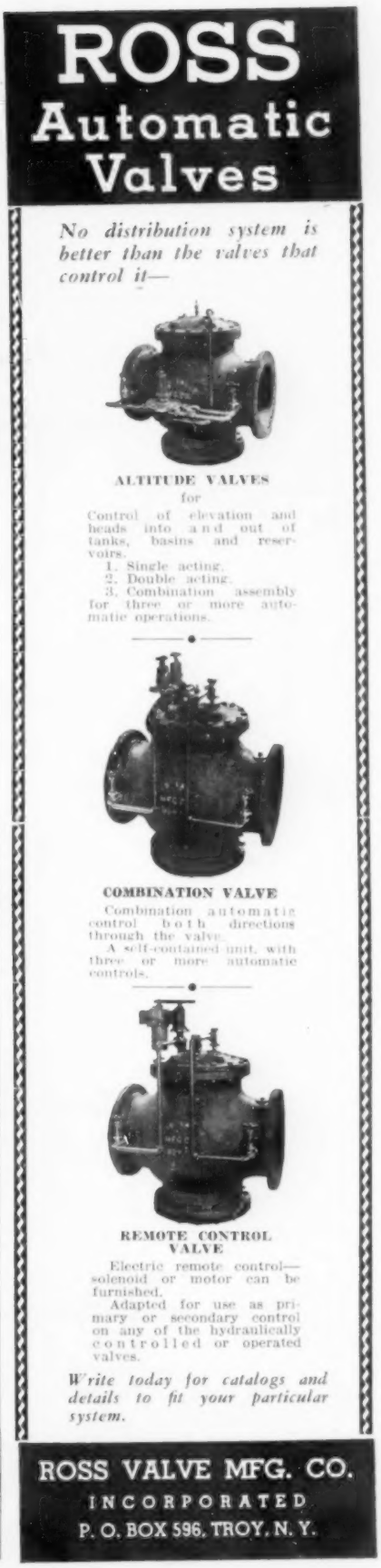
This step places Minnesota Mining and Manufacturing Co. in two distinct fields of tape production. Originators of "Scotch" tape and pioneers in the field of pressure-sensitive adhesives, they will now also engage in the manufacture of water activiated tapes and labels.

George H. Halpin, Vice-President of Minnesota Mining, will correlate the activities of the two companies. Active management of Mid-States will continue in the hands of Irving McHenry, President, Frank Humphner and George Goodsir, Vice-Presidents, and their associates.

In making the announcement, Mr. McKnight stated that exchanges of technical information in the field of coating products are expected to be of substantial mutual benefit.

Principal products of the newly acquired concern are paper and cloth sealing tapes, gummed label stock, sold to label printers, and a wide variety of cloth and combined paper-and-cloth tapes.


CHEMICAL
FEEDERS
Accurate, dependable solution feeders for water treatment chemicals. Constant rate and flow proportional, electric, gas engine and hydraulic drive, manual and automatic adjustment, low and high pressure %Proportioneers%.
Write for information.
% PROPORTIONEERS, INC. %
99 Codding St., Providence 1, R. I.


ROSS
Automatic
Valves
No distribution system is better than the valves that control it—
ALTITUDE VALVES
for
Control of elevation and heads into and out of tanks, basins and reservoirs.
1. Single acting.
2. Double acting.
3. Combination assembly for three or more automatic operations.
COMBINATION VALVE
Combination automatic control both directions through the valve.
A self-contained unit, with three or more automatic controls.
REMOTE CONTROL VALVE
Electric remote control—solenoid or motor can be furnished.
Adapted for use as primary or secondary control on any of the hydraulically controlled or operated valves.
Write today for catalogs and details to fit your particular system.
ROSS VALVE MFG. CO.
INCORPORATED
P. O. BOX 596. TROY, N. Y.

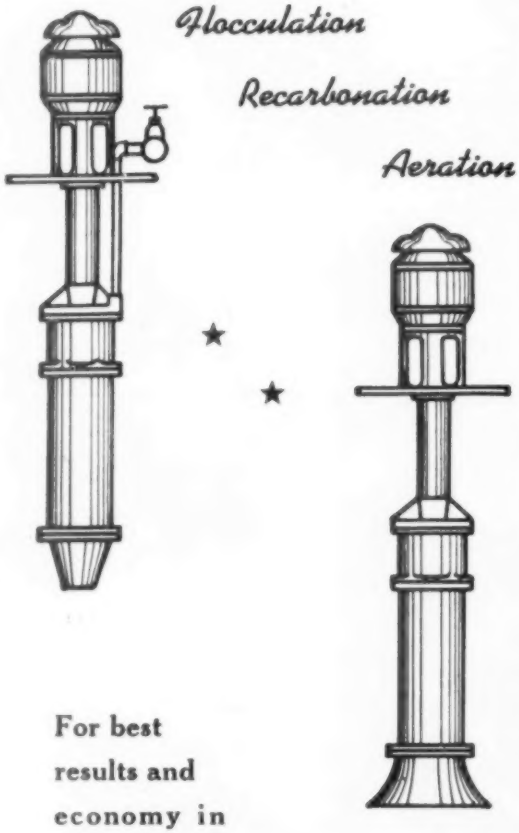
American Mixing Equipment

Rapid Mix

Flocculation

Recarbonation

Aeration



For best results and economy in initial and operating costs choose American Mixing Equipment. All units individually designed to meet varying field conditions.

Send for Bulletin No. 255

Buy American

THE AMERICAN WELL WORKS

AURORA ILLINOIS

MANUFACTURERS OF Pumping,—Sewage Treatment,—Water Purification Equipment

CUT MAINTENANCE COSTS 75%

Concrete slab maintenance costs can be reduced as much as 75% by the Koehring Mud-Jack Method. The Mud-Jack raises sunken concrete walks, curbs and gutters, driveways, streets, and airport runways eliminating reconstruction costs. Write for the new Mud-Jack Bulletin which is both illustrative and descriptive.

KOEHRING HEAVY DUTY

KOEHRING COMPANY

Milwaukee, Wisconsin

MUD-JACK METHOD

WANTED: TRAINED ADMINISTRATORS

☆ Cities all over the country are losing some of their top administrators to the federal and state governments and to defense industries. Unless there are trained replacements for these key men, city governments will be seriously crippled. If you are a department head, you owe it to your city to train an "understudy" for your job. If you are a junior administrator, now is the time to prepare for advancement.

Enroll now in one of these nine practical correspondence courses:

- Technique of Municipal Administration
- Municipal Finance Administration
- Municipal Police Administration
- Municipal Recreation Administration
- Local Welfare Administration
- Municipal Personnel Administration
- Municipal Public Works Administration
- Municipal Fire Administration
- Local Planning Administration

☆ Special texts have been prepared for administrators on the job. Lesson papers are reviewed by leading authorities in each field. The $35 fee for each course covers the text, individualized lesson instruction, and a certificate upon satisfactory completion of the work. The text alone sells for $7.50 a copy—$60 for a complete set. For use in group training projects, in lots of five or more, the price is $6 a copy.

There are now nearly 800 public officials enrolled in these courses in nearly 300 cities in 44 states.

WRITE FOR A SPECIAL CIRCULAR TODAY

THE INTERNATIONAL CITY MANAGERS' ASSOCIATION

1313 EAST 60TH STREET CHICAGO 37

Pittsburgh Equitable—Merco Promotes J. E. Brown

J. E. Brown, veteran sales executive of Pittsburgh Equitable Meter Co.-Merco Nordstrom Valve Co., Pittsburgh, Pa., has been promoted to Assistant to the General Sales Manager by A. J. Kerr, General Sales Manager of the combined organizations, and will maintain offices at Pittsburgh.

J. E. Brown

Mr. Brown joined the Pittsburgh Meter Co. in 1906. When it consolidated with the Equitable Meter Co. in 1926 he was made Manager of the Chicago District office but returned the following year to Pittsburgh as Director of Sales for the company, where he managed the advertising of the company until a separate department was formed. In 1942 he was given jurisdiction of the Home Office Sales Order Department. He will continue to manage this department along with his new duties.

C. C. Moore

Mr. Kerr also announced recently the consolidation of the Columbia, S. C., and Atlanta, Ga., offices of the company. C. C. Moore, Manager of the Atlanta office, now will direct field sales in the entire southeast section of the country comprising Florida, Georgia, Alabama, Mississippi, Tennesse, North and South Carolina, Virginia and most of Kentucky.

Staff Engineers Join Foxboro Offices

The Foxboro Co., Foxboro, Mass., makers of industrial instruments for measurement and control, has announced additions to its staffs working on the east and west coasts.

Frank Renner has been added to the staff of sales engineers covering the southern California territory and he will be located at the company's office at 2307 E. 8th St., Los Angeles. Mr. Renner has had 20 years of industrial experience, and has a wide acquaintance in this area because of his recent connection with a West Coast company servicing industrial instruments.

Robert Beers joined the staff of engineers attached to the company's New York office at 420 Lexington Avenue. He had several years' experience in the production department of Western Electric Co., American Brass Co., and Whitehead Metal Products. More recently he has been with the WPB at Washington, handling problems in the metallurgical field.

PREVENT RUSTING

Like hundreds of others, your steel tanks too can get lasting protection against rusting with Rusta Restor. Not a "Magic,"—but the proven cathodic (i.e., electrical) method, Rusta Restor maintains the tank in an "electro-negative" state, which not only prevents rusting, but gradually removes the effect of any earlier rusting. Rusta Restor is modest in first cost,—and uses the current required by only one light bulb,—at safe, low voltages. Each installation engineered to the individual tank and water conditions using proven mathematical formulas developed and used only by our engineers. Detailed description of interest to engineers and operating men sent on request. Write today.

RUSTA RESTOR

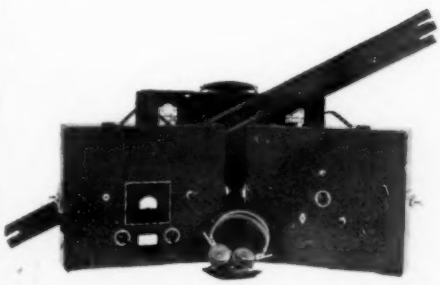
Division of

THE JOHNSTON & JENNINGS CO.

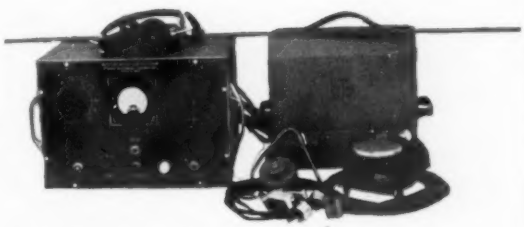
861 Addison Road **Cleveland 14, Ohio**

M-SCOPE

Pipe Finder **Leak Survey Equipment** **Leak Detector**



Send for Free 16-Page Booklet



FISHER RESEARCH LABORATORY

Direct Teletype by Western Union PALO ALTO, CALIF.

***Eastern Distributors of* FISHER M-SCOPE *and* LEAK DETECTORS**

Joseph G. Pollard Co., Inc.

141 ASHLAND PLACE BROOKLYN 1, NEW YORK

PIPE LINE EQUIPMENT

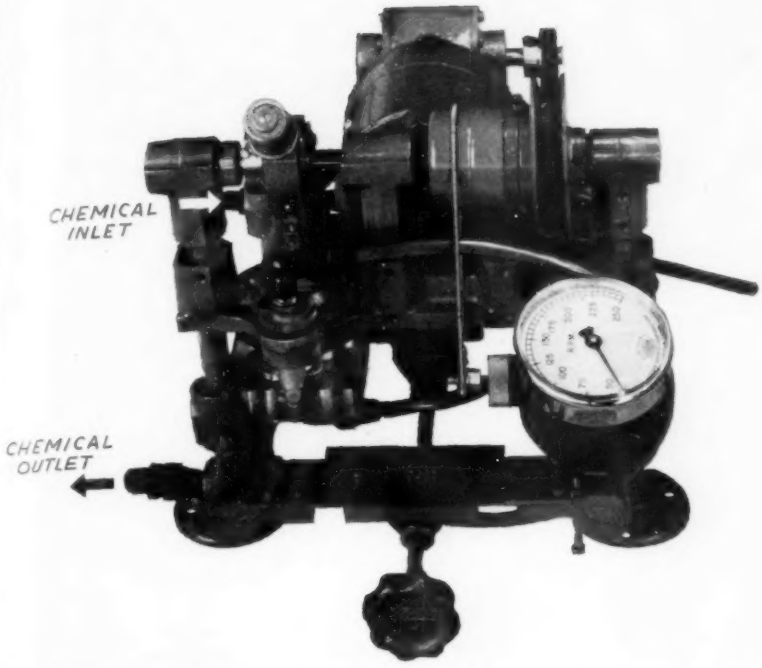
From a corrosion standpoint, where are you having trouble?

Are you having continual trouble because some piece of equipment can't stand up against corrosive attack? Do you have skylights, windows, doors and other structural members which suffer similarly? Aluminum isn't a cure-all. But it has overcome difficulties in many locations, or slowed them down to a point where aluminum's use is more than justified.

Often, these assignments are tough ones, requiring special consideration of alloys. You may find that even the aluminum must be safeguarded by protective coatings, cathodic protection or inhibitors. Our engineers have devoted years to studying ways of assuring maximum service with Alcoa Aluminum Alloys. They are well-fitted to advise you on such problems.

Jot down those spots where you'd like to consider aluminum. Then ask your nearest Alcoa office for help, or write ALUMINUM COMPANY OF AMERICA, 2172 Gulf Bldg., Pittsburgh 19, Pa.

ALCOA ALUMINUM



The Tachometer is an accurate device for adjusting the speed of chemical feeders. The dial at the right shows gallons-per-hour feed.

Speed-and-Feed Indication on Chemical Feeders

The latest important improvement in chemical feeders is a Tachometer used in conjunction with variable speed control on reagent pumps, according to Jeff Corydon, President of Chem-Feeds, Inc., 77 Reservoir Ave., Providence, R. I. Variable speed pulley drive was first applied to hypochlorinators and small chemical feeders in 1943 by Chem-Feeds, Inc. This firm originated small high-stroking-speed chemical pumps with finger-tip control of delivery while unit was in motion, by means of variable-pitch-pulley drive.

Solution feeding basically is a sequence of measured displacements of a liquid. Control of this feed simply requires accurate counting of these "shots" plus easy means of regulating the number of injections made. No arbitrary scale nor approximation is as correct as the actual "counting off" of the volumetric units fed, especially if the counting is done at the displacement pump piston where it is beyond errors due to belt slip, motor slow down, voltage fluctuation, or other variables of a mechanical drive. Previously, many chemical feeder designs attempted control by adjustment of stroke length of displacement piston or diaphragm. Difficulty of accurately dividing a short stroke (say ¼-inch) into many increments is obvious. To divide 300 constant length strokes per minute into many divisions is easy and accurate with Tachometer control.

"The Tachometer," says Mr. Corydon, "is to the chemical feeder what your Speedometer is to the auto. You step on the car accelerator till speedometer shows the desired speed—or you adjust the handwheel of Var-I-Feeder control till Tachometer indicates the speed-and-feed wanted."

Tachometer readings readily convert itno gallons-per-hour feed against various pressures, or at slight extra cost Tachometer dial is furnished with direct readings of gallons-per-hour feed, provided injection pressure is specified in advance. Tachometer control has also been developed for meter-paced proportional feeders.

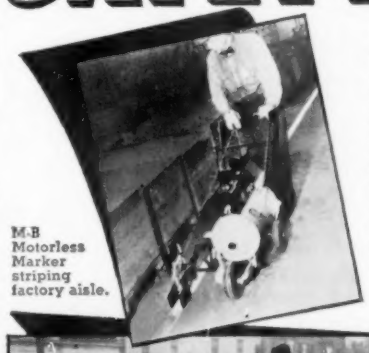
New Vice-President for Philadelphia Electrical & Mfg. Co.

A. H. Manwaring has been elected Executive Vice-President of the Philadelphia Electrical & Mfg. Co., 1206-36 North Thirty - First St., Philadelphia 21, Pa.

A. H. Manwaring

Mr. Manwaring became associated with the Philadelphia Electrical & Mfg. Co. as manager of commercial sales in 1938. In 1940 he was made manager of the sales and engineering departments. Before coming to the company he served as Cadet Engineer with the Philadelphia Electric Co. from 1934 to 1938 when he entered its Industrial Sales Department.

SAFETY on the Home Front



M-B Motorless Marker striping factory aisle.

Reduce accidents to a minimum, both indoors and outdoors, by systematically striping designated traffic lanes. M-B MARKERS simplify the job. They handle ANY type of striping job — factory aisles, street centerlines, crosswalks, etc. Also handy for marking airports, athletic fields, tennis courts, playgrounds, etc. Quickly convertible to all-purpose paint sprayer for painting park benches, guard rails, traffic signs and other municipal equipment. Two types — motor-driven for all-purpose painting and motorless for striping only. Write for literature.

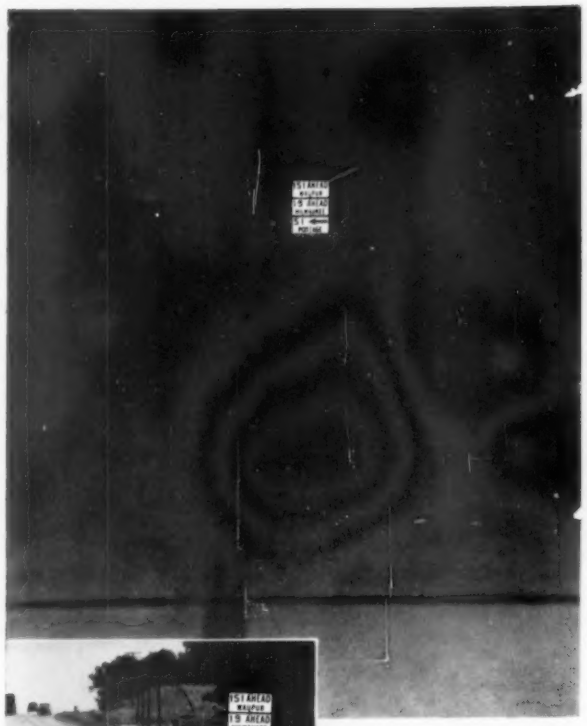
Meili-Blumberg Corp., Dept. A-11, New Holstein, Wis.

M-B Motor-driven Marker putting down double line at street intersection.

M-B Motor-driven unit marking single line on airport runway.

MB MARKERS

A 4365-35



The above nigh. view, taken at 400 feet, clearly illustrates the clarity and readability of this 2' x 4' SCOTCHLITE reflectorized directional highway marker.

NEW SCOTCHLITE SIGNS GIVE LONG RANGE READABILITY... AND GREATER SAFETY

Legends and symbols on signs reflectorized with SCOTCHLITE are definitely more readable at greater distances night and day. This new reflective sign material gives signs maximum brilliance without glare or distortion of the sign's message. SCOTCHLITE comes in flexible roll form up to 24" in width—50 yards in length and in white, yellow, silver or red colors. SCOTCHLITE is easy and time saving to apply; by far the most efficient, economical reflective material to use for all sign reflectorizing jobs.

Available in Roll Form

Scotchlite

REG. U. S. PAT. OFF.

REFLECTIVE SIGN MATERIAL 24 Hour Visibility

Made and Patented in U.S.A. by

MFRS. 3-M PRODUCTS

MINNESOTA MINING AND MANUFACTURING CO.

GENERAL OFFICES: SAINT PAUL 6, MINN.
BRANCHES IN PRINCIPAL CITIES

The simplest, sturdiest and most dependable spray pump built.

Buy the Sprayer that's EASIEST TO KEEP RUNNING

Fewest Moving Parts. Only 1/2 to 1/3 as many moving parts as other high-pressure spray pumps.

Simplest Lubrication. All moving parts (including the plungers) are fully lubricated.

No Wear on Pump Cylinders, as the plungers don't touch the cylinder walls.

"Instant-Clean" Valves with threadless seats — outside and easy to get at.

Instant Packing Adjustment on each pump cylinder; you never spray with a leaky pump.

Make your own comparisons of spray pumps. Then talk to shade tree men who have used ***several different makes***—and your choice will be the "Friend."

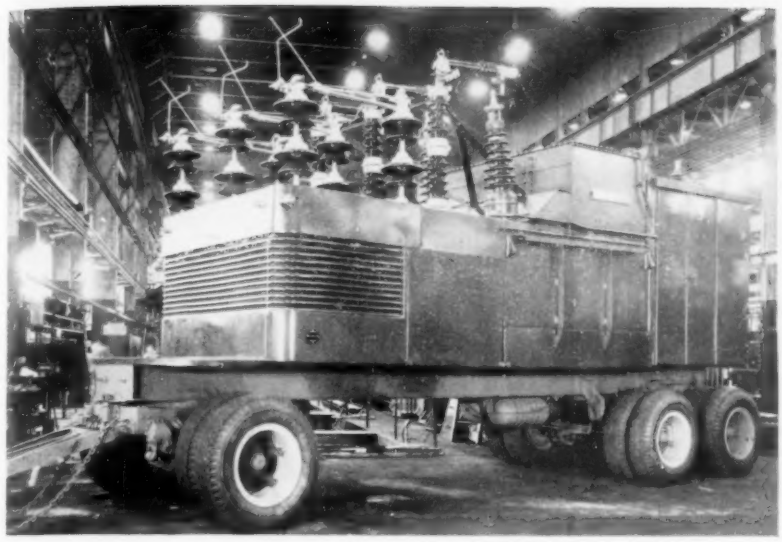
And you get MORE POWER for HIGH TREES

Having the simplest and sturdiest pump, naturally the "Friend" Sprayer operates easily under extreme loads. Experienced shade tree men tell you: "When we have to reach high trees, the 'Friend' is the sprayer to use."

The picture above shows spraying a 120-ft. tree with "Friend" Park Sprayer.

FRIEND MANUFACTURING CO.
Gasport, N. Y.

"FRIEND" PARK SPRAYERS



Here is the 24-ton mobile substation mounted on its 12-wheel trailer which General Electric recently completed.

Mobile Power Substation for Emergency Use

The Pittsfield Works of the General Electric Co., Schenectady, N. Y., recently completed one of the largest mobile unit substations ever erected. This can be towed to any part of your system to increase power or assist in emergency conditions caused by a shut-down of one of the regular substations.

This mobile substation weighs 24 tons and is mounted on a 12-wheel trailer. It is capable of supplying power for 25,000 lamps of 100-watt power or for a fair-size town.

The unit is completely equipped with power transformer, high-voltage fuses and disconnecting switches, feeder oil circuit breaker, lightning arresters for high-voltage circuits, and low-voltage metering equipment. Another feature is a retractable high-voltage disconnecting switch which permits spreading the phases apart to obtain necessary electrical clearances when operating at the highest voltage, and returning them to normal to meet road clearances during transportation.

The fuses and arcing horns can be removed during transportation, and storage space is provided for them. When the substation is ready for use the fuses and arcing horns are easily installed, the proper circuit connection is chosen, the operating mechanisms are unlocked, and connections are made to the power line, and the substation is ready for use whenever needed.

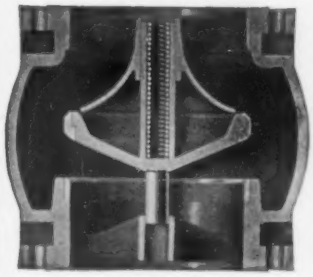
Barber-Greene Wins Fourth "E" Award

Employees of the Barber-Greene Co., Aurora, Ill., are the recipients, for the fourth time, of the Army-Navy Production Award for "outstanding achievement in producing materials essential to the war effort."

Notice of the award was received in a letter from Robert P. Patterson, Under Secretary of War, who stated, "By maintaining the distinguished record which brought you distinction you are once again proving your leadership on the production front."

The company manufactures ditchers, bucket loaders, asphalt mixers and finishers, and other construction equipment for the Armed forces and Lend-Lease agencies.

SMOLENSKY
VALVES



■ The Smolensky Radialflow Noiseless Check Valve eliminates water hammer, which assures operating efficiency and noiseless operation.

Designed to be constructed with a cast iron body, plug, spider, and made with a renewal bronze valve seat or seat of other metal when required.

Specify Smolensky Valves for your water works plant and assure yourself years of trouble-free service.

Economy—Durability

THE SMOLENSKY VALVE CO.
940 BROADWAY, BEDFORD, OHIO

R.D. COLE QUALITY

TANKS
TOWERS
STANDPIPES
STACKS
KIERS
KETTLES
VATS
AIR RECEIVERS
WELDED STEEL PIPE
DIGESTERS
BOILERS
BINS
FABRICATED FRAMEWORK

MARITIME "M" MERIT AWARD

Tank Builders for over 80 Years

R. D. COLE MFG. CO.
Established 1854
NEWNAN, GEORGIA

We Are Doing Our BEST for UNCLE SAM

We'll Do the Same for YOU

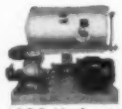
Our business is building pumps. Our ONLY policy is to build fine pumps. When you install pumps "by Aurora," you know that lasting efficiency and dependability are at work on your important liquids handling jobs.

Aurora Deep Well Turbines for all conditions—4" to 24"

Type AD Hor. Split Case, Two Stage Centrifugal

NSA Aurora Centrifugal Sump Pump

Type OD Hor. Split-Case Double Suction Single Stage Centrifugal



APCO Horizontal Condensation Return Unit

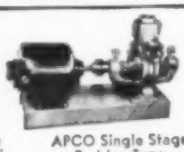
Type GMC Close-Coupled Centrifugal

APCO TURBINE-TYPE PUMPS—the simplest of all pumps. Ideal for small capacity, high head duties. Silent, compact and lasting.

Write for **CONDENSED CATALOG OR**

SEE OUR CATALOG IN SWEET'S

Type GGU Side Suction Single Stage Centrifugal



APCO Single Stage Turbine-Type

DISTRIBUTORS IN PRINCIPAL CITIES

AURORA Always PUMPS

AURORA PUMP COMPANY

66 Loucks Street, AURORA, ILLINOIS

Statement of the Ownership, Management, Circulation, etc., Required by the Act of Congress of March 3, 1933, of The American City, Published Monthly at New York, N. Y.; October 1, 1944.

State of New York, County of New York ss.:

Before me, Notary Public in and for the State and County aforesaid personally appeared EDGAR J. BUTTENHEIM, who having been duly sworn according to law, deposes and says that he is the President and Business Manager of the American City Magazine Corporation, Publishers of THE AMERICAN CITY and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of March 3, 1933, embodied in Section 537, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher, AMERICAN CITY MAGAZINE CORPORATION, 470 4th Ave., New York 16.

Editor, HAROLD S. BUTTENHEIM, 470 4th Ave., New York 16.

Managing Editor, NONE.

Business Manager, EDGAR J. BUTTENHEIM, 470 4th Ave., N. Y. 16.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock).

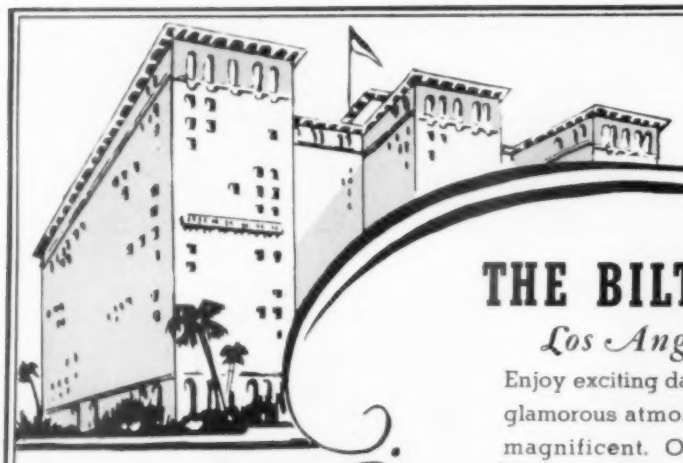
AMERICAN CITY MAGAZINE CORPORATION, 470 4th Ave., N. Y. 16.
Stockholders: EDGAR J. BUTTENHEIM, 470 4th Ave., N. Y. 16; HAROLD S. BUTTENHEIM, 470 4th Ave., N. Y. 16; MARIAN V. BUTTENHEIM, Yonkers, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are: (If there are none, so state). None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the names of the person or corporation for whom such trustee is acting, is given, also that the said two paragraphs contain statements embracing affiants' full knowledge and belief as to the circumstances and conditions under which stockholders and security holders, who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner, and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him. AMERICAN CITY MAGAZINE CORPORATION.

Sworn to and subscribed before me this 29th day of September, 1944. EDGAR J. BUTTENHEIM, Pres.

EDWIN WAGNER, Notary Public
New York County Clerk's No. 422
(My commission expires March 30, 1946.) New York Co., N. Y.



Western America's MOST HOSPITABLE HOST

THE BILTMORE HOTEL

Los Angeles, California

Enjoy exciting days...exotic nights in the gay, glamorous atmosphere of California's hotel magnificent. Only five minutes from Los Angeles' Union Station...in the heart of the shopping and theatre area. The ultimate in convenience and comfort.

1500 ROOMS
All With Private Bath
Singles
$4.50 to $8
Doubles
$7 to $10
★

Home of the World-Famous
BILTMORE BOWL
"Supper Club of the Stars"

H. A. Harris, Jr. (left) and Everett Lundy.

On Exhibition at Meeting of California AWWA

H. A. Harris, Jr., Engineer of Design for the California Water Service Co., San Jose, Calif., examines with Everett Lundy, Western Sales Manager, Peerless Pump Division of Food Machinery Corp., 301 West Ave., 26, Los Angeles 31, Calif., the record on the bronze plaque on this bucket. This famous old oaken bucket, displayed at the meeting of the California Section, American Water Works Association in Los Angeles in October, is more than one hundred years old.

Pacific Regional Manager for Allis-Chalmers

A. J. Schmitz has been appointed Pacific Regional Manager of the Allis-Chalmers Mfg. Co., Milwaukee, Wis., according to a recent announcement by Frank Angle, Manager of District Offices.

Mr. Schmitz has been associated with the company since 1914. For 11 years he was in charge of the company's operations in Cuba. Prior to his present appointment he was manager of Allis-Chalmers' Seattle office.

Painting Against Damp, Fungus, and Flame

The Vita-Var Corp., Newark, N. J., received the Army-Navy "E" on November 2. Since 1888 the corporation has specialized in the manufacture of paints, varnishes, enamels, protective coatings and product finishes. These finishes now render war equipment, supplies, and clothing flameproof and waterproof, and protects them against the fungi of the jungles. These and new products will be available for municipal use after the war.

Straight Rock Salt on Snowy Concrete

Experience has shown that where rock salt is used straight, for melting ice and snow on streets and highways, it is less costly than where abrasives are used, notwithstanding the safer surfaces produced. Articles have appeared by officials who use straight salt bearing out this fact.

It is true that pools of brine would remain on dips or low spots in the pavement, provided the maintenance engineer did not do a complete job of maintaining the highway. On the other hand, it is not merely a matter of putting salt on the snowy or icy highway and then forgetting it. Our procedure requires that as soon as the salt has done its job, the highway engineer run over the surface with a power broom, blade grader or snow-plow blade held tight to the pavement surface so that all slush, mealy snow or loose ice be removed immediately after the storm.

We do not recommend that straight salt be used on straight Portland cement concrete under 3 years old. On the new air-entrained or natural blend cement concrete, however, we do not hesitate to recommend the use of straight salt as soon as the road is open for travel.

L. J. Ettinger, Jr.
International Salt Co., Inc.
Scranton, Pa.

INSTALLATIONS WORLD WIDE

LARGEST CITY TO SMALLEST VILLAGE

VALVES COMPLETE EQUIPMENT FOR WATER WORKS FILTRATION AND SEWAGE DISPOSAL PLANTS LATEST "COREY TYPE" HYDRANTS

Write for Catalogue and Information

IOWA VALVE CO.

General Offices:
Hubbell Bldg., Des Moines, Iowa

Plant:
Oskaloosa, Iowa

METAL SIGNS

Now Available

★ Check your needs *now* for metal signs that do a night-and-day job of traffic control! Widely used CATAPHOTE Metal Reflector Signs are now available . . . for all types of highway messages. Long-life, low-cost illumination assured by use of Cataphote Reflector Buttons. Advanced design meets strictest specifications. No moisture condenses . . . No yellowing with age . . . brilliance guaranteed 3 years.

Order today!

CATAPHOTE CORPORATION
TOLEDO • OHIO

PLAN YOUR PLANT DRIVE NOW!

Good organization will be needed to sell the 6th. The task of raising the huge sum required will be the most difficult ever asked of Industry. As each new military success brings us closer to Victory, the public naturally will feel that the urgency of war financing is lessened—whereas it isn't. So organize now to prevent a letdown on the home-front from causing a letdown on the fighting front. Build your plant's payroll campaign around this fighting 8-Point Plan. You don't have to wait for the official Drive to start—swing into action NOW!

1 **BOND COMMITTEE**—Appoint a 6th War Loan Bond Committee from labor, management and each representative group of the firm.

2 **TEAM CAPTAINS**—Select a team captain, for each 10 workers, from men and women on the payroll—but not in a supervisory capacity. Returned veterans make most effective captains.

3 **QUOTA**—Set a quota for each department and each employee.

4 **MEETING OF CAPTAINS**—Give a powerful presentation of the importance of the work assigned to them. Instruct them in sales procedure. Have them carefully study the Treasury Booklet, *Getting the Order.*

5 **ASSIGNMENTS**—Assign responsibilities for:
(a) *Music, speeches and announcements of the opening rally.*
(b) *Pre-drive letter to employees from management and labor.*
(c) *Competitive progress boards.*
(d) *Meeting schedules, etc.*

6 **CARD FOR EACH WORKER**—Dignify each personal approach with a pledge, order, or authorization card made out in the name of each worker. Provide for a cash purchase or installment pledge. Instruct each captain to put a pencil notation on the card to indicate the subscription he expects to solicit from each worker.

7 **RESOLICITATION**—People don't mind being asked to buy more than once. Resolicit each employee toward the end of the drive in a fast mop-up campaign. Call upon your State Payroll Chairman; he's ready with a fully detailed plan—NOW!

8 **ADVERTISE THE DRIVE**—Use all possible space in the regular media you employ to tell the War Bond story.

The Treasury Department acknowledges with appreciation the publication of this message by

THE AMERICAN CITY

This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council

CA[illegible]ROOM
[illegible]LIBRARY
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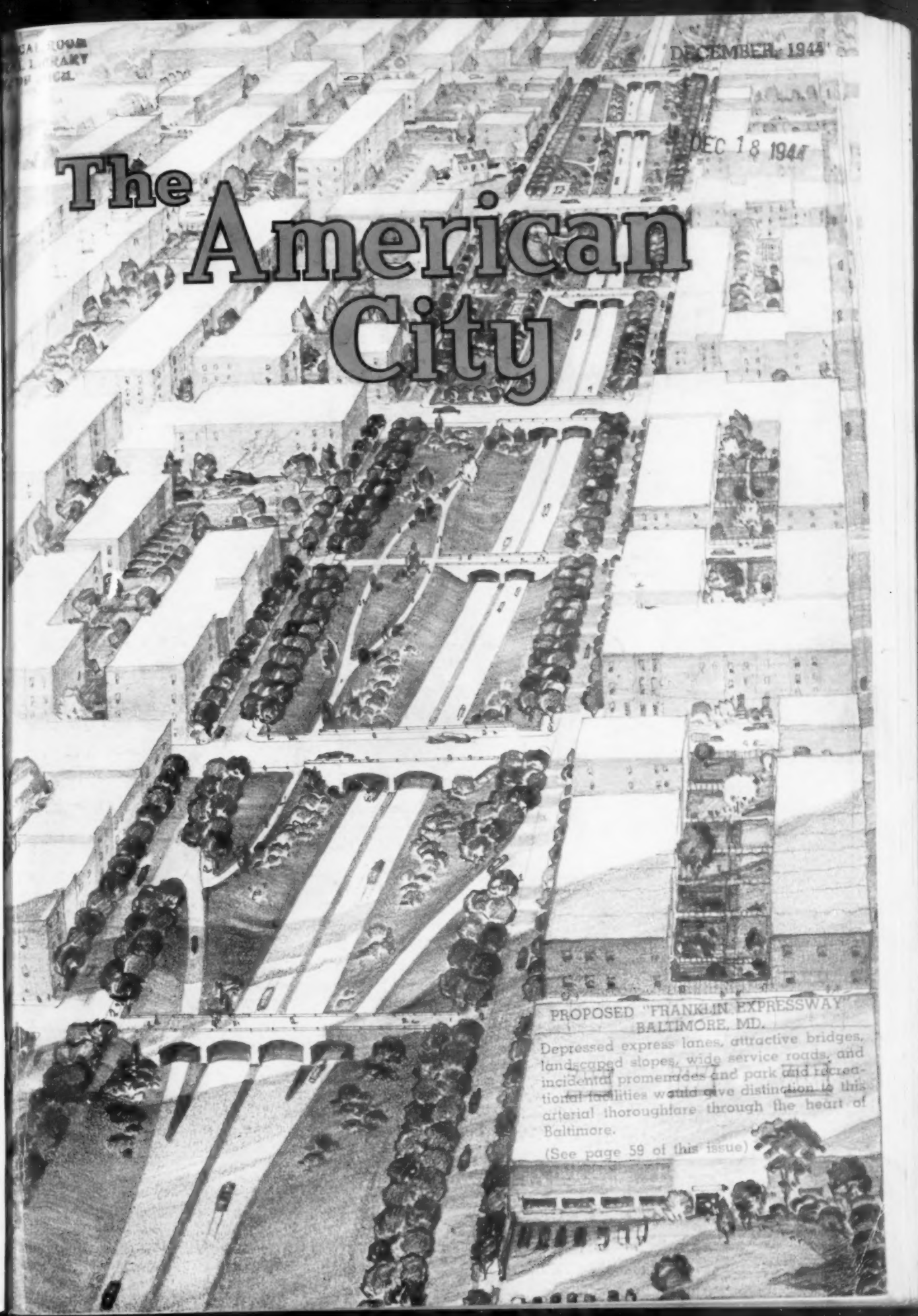
DECEMBER, 1944

DEC 18 1944

The American City



PROPOSED "FRANKLIN EXPRESSWAY"
BALTIMORE, MD.

Depressed express lanes, attractive bridges, landscaped slopes, wide service roads, and incidental promenades and park and recreational facilities would give distinction to this arterial thoroughfare through the heart of Baltimore.

(See page 59 of this issue)